RADview/TDM

Network Management System

Optimux-34

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Chapter 1

Introduction

This chapter provides an overview for managing Optimux-34 using the RADview/TDM SNMP Optimux-34 management solution. It introduces the graphical user interface. It is assumed that you are familiar with basic RADview/TDM operations. For more information about basic RADview-NMS operations, refer to the *RADview/TDM (PC) or (UNIX) User's Manual.*

1.1 Optimux-34 Overview

Optimux-34 provides a simple, flexible, and cost-effective solution for transporting multiple E1 channels, high-speed, and Ethernet traffic over an E3 link to distances of up to 110 km (68 miles). The E3 link is available with multimode, single mode fiber, single mode over single fiber, or SFP-based interfaces. It supports redundant and modular main links and power supplies.

Optimux-34 provides 16 E1 channels, high speed and Ethernet traffic, into one E3 copper or fiber optic link.

Optimux-34 provides optional wide-range modular redundant power supplies. The optional second main link provides backup using automatic switchover upon link. The optional second power supply provides power redundancy for fail-safe operation.

Optimux-34 has various optical interfaces (based on SFP interfaces) available for both active and backup main link(s).

Optimux-34 transmits the clock of each E1 channel independently.

As a local device, Optimux-34 can be connected to an Optimux-34 device or to Optimux-XLE1.

1.1 RADview/TDM Optimux-34 Overview

This chapter explains the steps required to get the RADview/TDM SNMP management system for Optimux-34 version 1.0 up and running. It describes the graphical user interface, configurations, security and fault management. Specific tasks possible with RADview/TDM Optimux-34 are dealt with in the subsequent chapters in this manual. All the configurations and management support in this manual are tasks that can be performed with RADview only and not with the terminal.

The RADview/TDM SNMP management system for Optimux-34 provides you with all the tools necessary to monitor the performance and configure the device parameters for its local and remote devices.

The RADview/TDM management system for Optimux-34 local and remote units is accessed in two levels:

- System Level
- Port Level:
  - E1 port
  - E3 Link port
  - MNG-ETH port
  - USER-ETH port
  - V.35 port.

Table 1-1 presents the list of tasks that can be performed through the RADview/TDM Optimux-34 both in the system and the port levels.

Table 1-1. RADview/TDM Optimux-34 System and Port Levels Tasks

Task Description	System Level	Port Level (MNG-ETH, USER-ETH, V.35, E1, E3 Link)
Configuring and viewing system information	√	
Configuring and viewing system parameters	√	
Configuring and viewing port parameters		√
Viewing system interfaces	√	
Defining manager list	√	
Setting management access	√	
Polling agent	√	
Managing alarms	√	
Listing alarm history log	√	
Clearing alarm history log	√	
Masking alarms	√	
Performing loopback tests		√
Resetting hardware	√	
Resetting hardware configuration	√	

Chapter 2

Installation and Operation

This chapter explains the installation and operation required to get the RADview/TDM system for Optimux-34 up and running. It also describes the RADview/TDM Optimux-34 graphic user interface (GUI) and how to select the system and its ports.

This chapter covers the following tasks:

- Launching RADview/TDM Optimux-34
- Using the RADview/TDM Optimux-34 View window.

2.1 Pre-configuring Optimux-34 for Network Management

For complete details on pre-configuring Optimux-34 for network management, refer to *Chapter 3* of the *Optimux-34 Installation and Operation Manual* (hardware manual).

2.2 Connecting Optimux-34 to the Management Station

For complete details on how to connect Optimux-34 to a management station, refer to *Interfaces and Connections* under *Section 2.5* of the *Optimux-34 Installation and Operation Manual* hardware manual.

2.3 Launching Optimux-34

Begin using Optimux-34 by launching the Optimux-34 View window.

➤ **To launch the Optimux-34 View window:**

- On the map, select and double-click the **Optimux-34** icon.

  The Optimux-34 View window opens. You can now perform configuration and monitoring functions in the entire Optimux-34 system.

2.4 Using the Graphical User Interface (GUI)

From the Optimux-34 View window, you can configure and monitor the entire Optimux-34 system elements.

Optimux-34 View Window

The RADview/TDM SNMP for Optimux-34 View window displays a dynamic graphical representation of a local Optimux-34 front panel and a connected remote Optimux-34 standalone front panel. The view includes the links/ports, their operational and communication status, and the device's LED indicators' status.

Note

- *The IP Address of the Remote unit, which appears at the top of the screen, is shown similar to the address of the Local unit, although each unit has a different address. You can see different addresses only in the caption under a SNMPc (PC environment), after you have connected a link between the two relevant icons on the SNMPc map.*
- *The remote device display will be according to the far-end type. If the far-end type is unknown, the NMS will display a box with only the word "Unmanaged" within it.*
- *If the remote unit is disconnected, all remote device ports will not be selectable and the line icon connecting the local and remote devices will be "broken", the display is zoomed with an "Unmanaged" message on it.*
- *If the local unit is a card, then only the local unit appears in the Optimux-34 window.*
- *If the local unit is a standalone, then the remote unit also appears in the Optimux-34 window.*

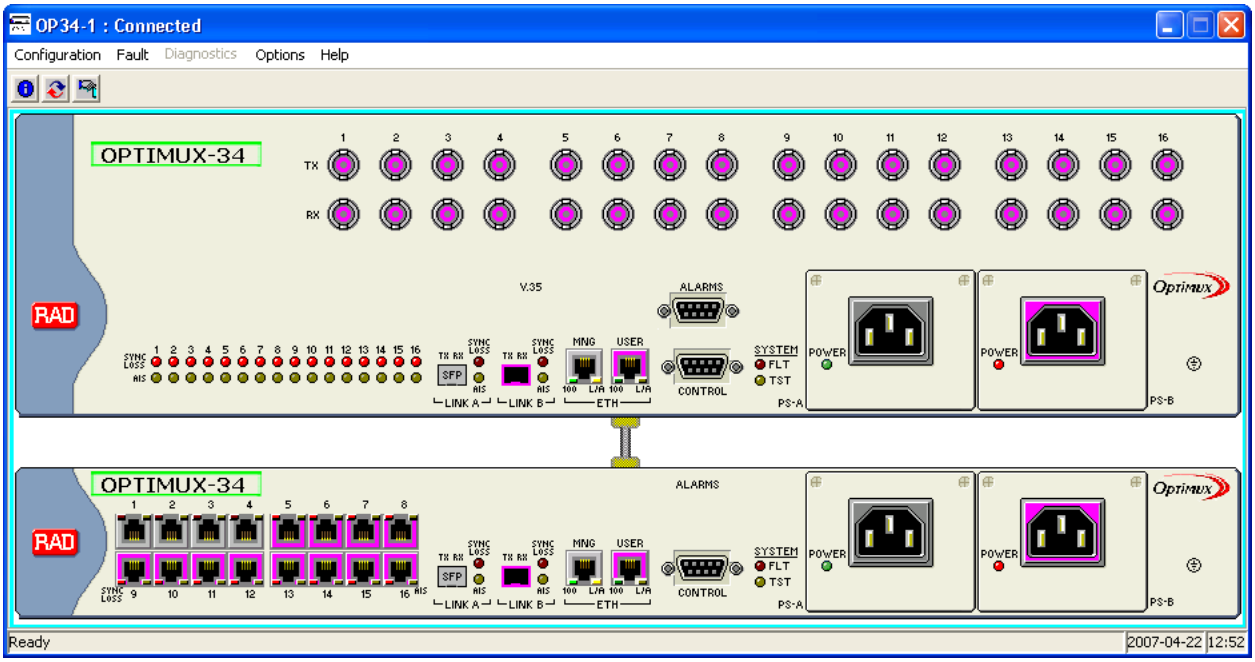


Figure 2-1. Optimux-34 View Window

The Optimux-34 View window contains the following elements:

- Title bar
- Main menu bar
- Toolbar
- Optimux devices
- Status bar.

Title Bar

Figure 2-2. Title Bar

The title bar (at the top of the View window) displays the name or IP address of the local Optimux-34 and the connection status between it and the remote device. "Connected" appears in the title bar (see *Figure 2-2*), if a connection exists between the Optimux-34 and the remote device. "Disconnected" appears in the title bar, if, there is no connection between the Optimux-34 and the remote device.

Menu Bar

Figure 2-3. Main Menu Bar

The main menu bar has drop-down sub-menus. Click a menu to display all the items in that menu. The menu items allow you to perform operations related to the selected elements in the Optimux-34 system. The menus are context sensitive; menu items are enabled or disabled as applicable to the selected element.

In addition to using the menu bar, operations related to specific elements can also be performed using pop-up menus activated by right-clicking the mouse over the selected element.

Toolbar

System Level E1 and E3 Port Toolbar MNG-ETH and USER-ETH Port Toolbar

Figure 2-4. Toolbars

Below the menu bar appears toolbar icons that allow you to perform specific Optimux-34 operations related to the selected elements in the Optimux-34 system with a single mouse-click. This toolbar is context sensitive; the icons displayed change depending on the Optimux-34 element currently selected.

Table 2-1. Toolbar Buttons

Icon	Name	Function
	System Info	Displays system info
	Reset	Resets the system's default settings
	Poll Agent	Poll system or selected device
	Parameters	Displays the parameters of the selected device
	Loopback Test	Runs loopback test(s) on the selected device

Status Bar

Figure 2-5. Optimux-34 Status Bar

The Optimux-34 status bar appears at the bottom of the View window and indicates the current state of the system, as summarized in *Table 2-2*.

Table 2-2. Status Types and Descriptions

Status	Description
Working	Connection to the device is in progress
Waiting	Waiting for connection to the device
Interrupted	Connection to the device failed (time-out)
Ready	Connection to the device is successful
Polling	Device polling is in progress.

Optimux-34 System

The main, central workspace of the View window is a dynamic graphical representation of the front panels of the local and remote Optimux-34 devices. In this workspace you can select links, ports, and ports to invoke specific menu commands to perform activities, such as system configuration and performance monitoring.

Note that you can right-click the mouse over selected elements to invoke the relevant menu commands.

When you perform certain activities, such as clicking the System Information button, a dialog box is displayed (in a secondary window) on top of the Optimux-34 View window.

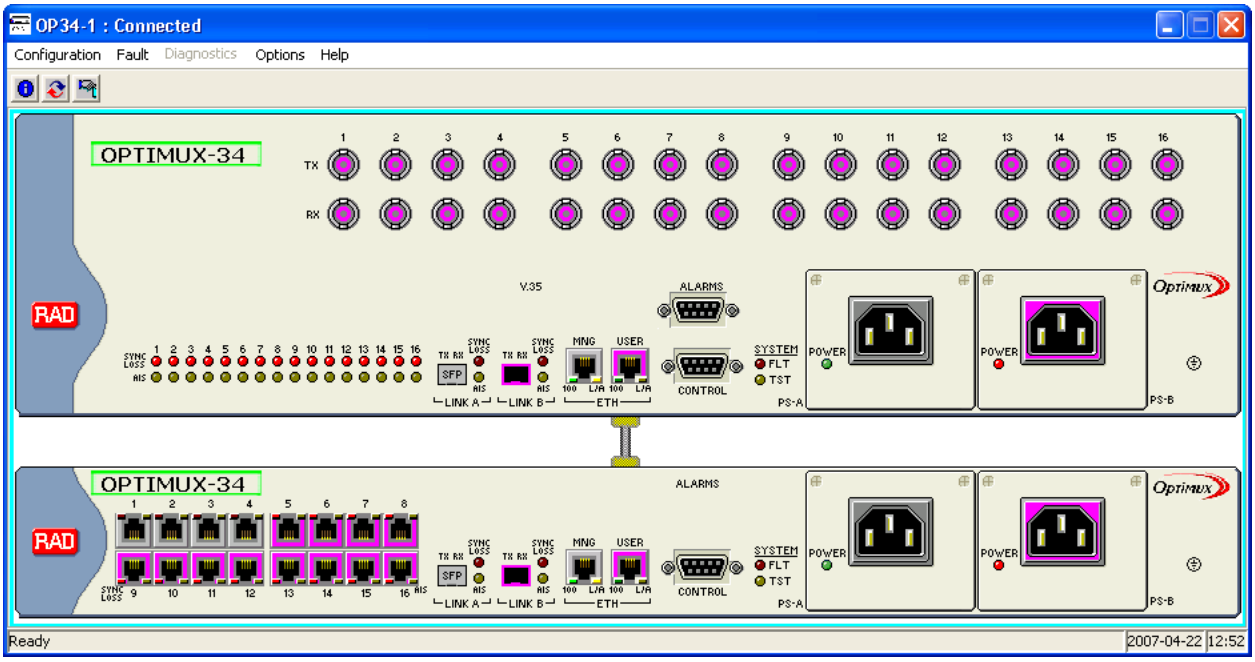


Figure 2-6. Optimux-34 System

RADview/TDM Optimux-34 Menu Maps

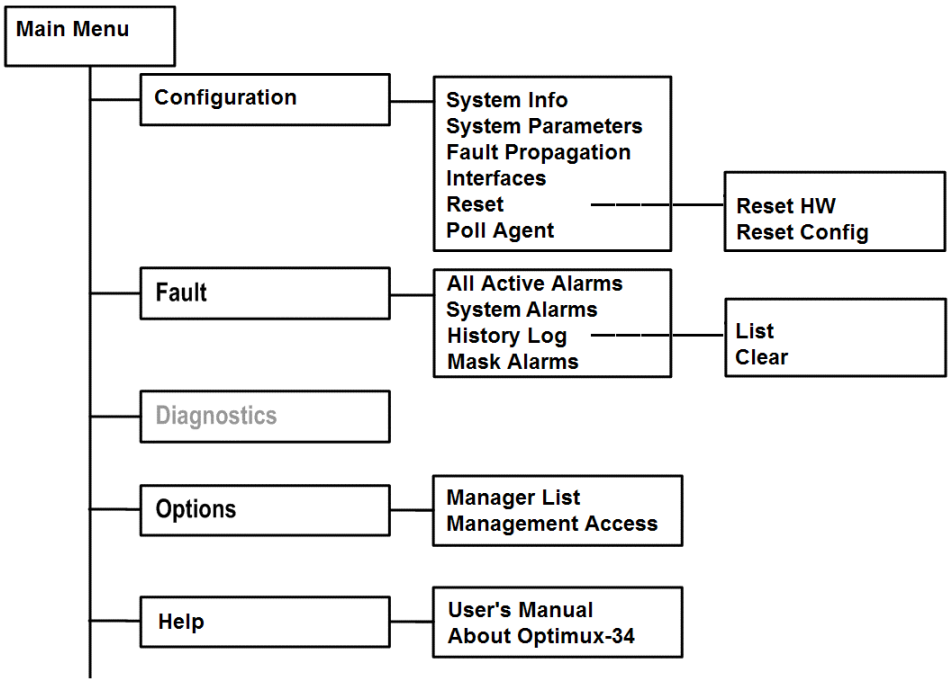


Figure 2-7. System Level Menu Map

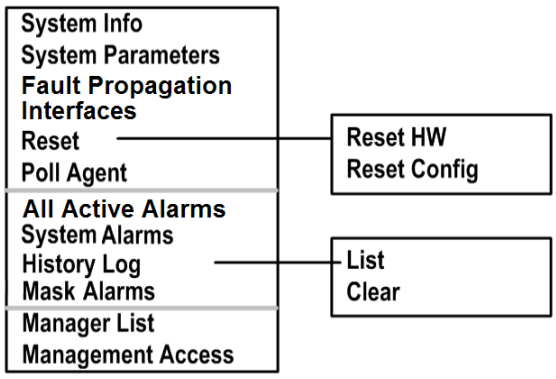


Figure 2-8. System Level Pop-Up Menu Map

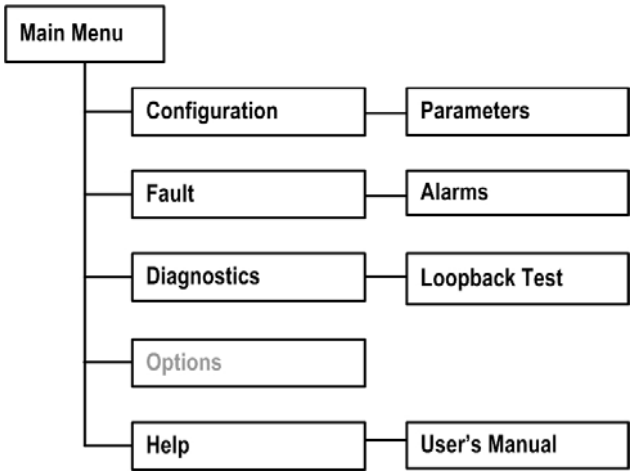


Figure 2-9. E1, E3, V.35 Ports and Links Menu Map

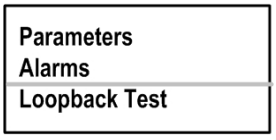


Figure 2-10. E1, E3, V.35 Ports Pop-Up Menu Map

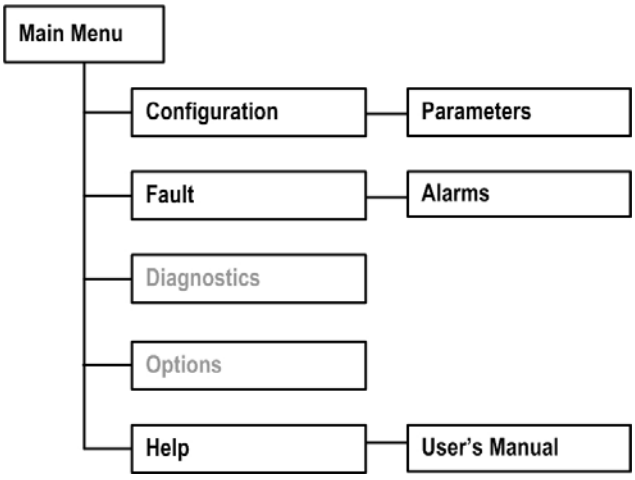


Figure 2-11. MNG-ETH/USER-ETH Level Menu Map

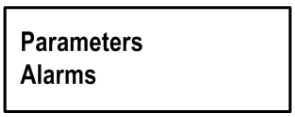


Figure 2-12. MNG-ETH/USER-ETH Pop-Up Menu Map

Selecting the System

Before you can perform system operations, you must first select the system in the Optimux-34 View window.

Two types of elements may be selected:

- Ports
- Links
- All other areas that are not ports represent the system and a frame around the panel is displayed.

The default selection is the system.

➤ **To select the system:**

- Click inside the Optimux-34 View window without selecting a device. Ensure that no border surrounds any of the port or modem cards in the window.

  A blue border outlines both the Local and Remote Optimux-34 devices, indicating that the whole system is selected.

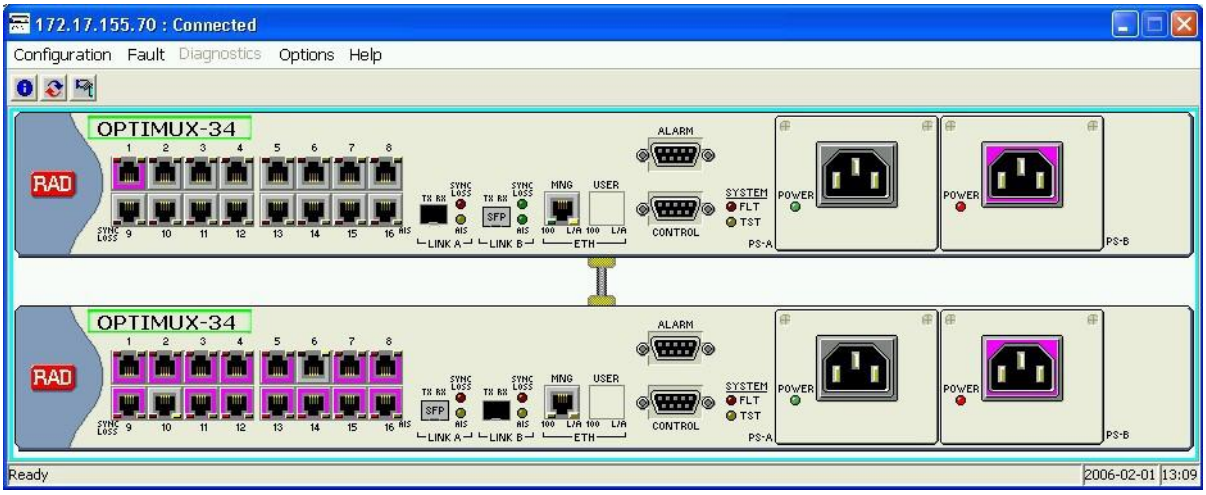


Figure 2-13. Optimux-34 System Selected in the View Window

The main view includes the local device and the remote device.

Discovering the Device

The Optimux-34 application opens with a specific IP address. The NMS discovers the device by:

- Recognizing the IP address it was designated
- Identifying the virtual modules, slots, and LEDs that exist
- Determines which device is the Remote device.

Selecting Ports

Before you can perform port operations, you must first select a port in the Optimux-34 View window (see *Selecting the System* on page *2-7* for available Optimux-34 ports).

➤ **To select a port:**

- In the Optimux-34 View window, click a port to select it.

  A blue border outlines the selected port, indicating it is selected.

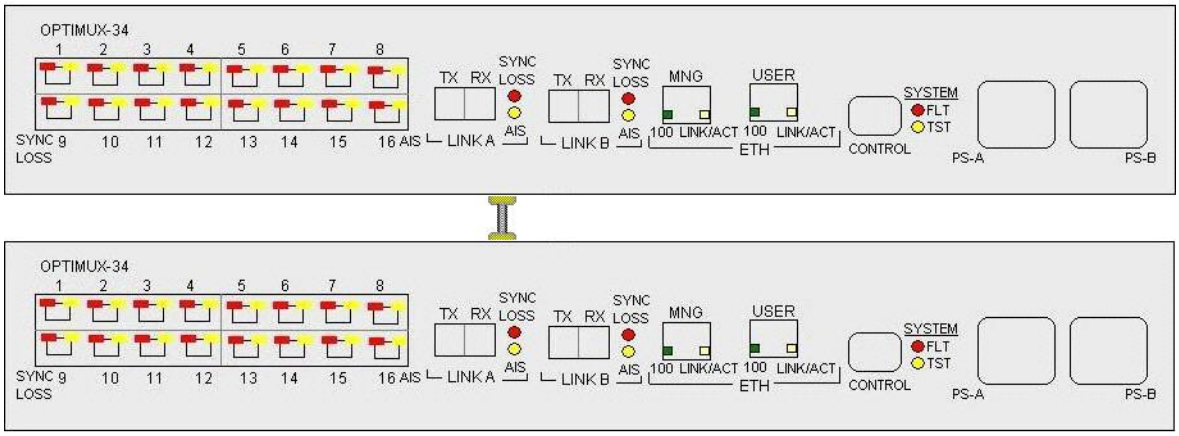


Figure 2-14. Optimux-34 Front Panel

Optimux-34 Front Panel Connectors

Table 2-3 lists the ports and connectors of Optimux-34.

Table 2-3. Optimux-34 Ports and Connectors

Name	Number of Ports	Connector Type
Control	1	DB9
MNG-ETH	1	RJ-45
USER-ETH	1	RJ-45
E3 (Link)	2	SFP
E1	16	RJ-45 or 2 BNC
V.35	1	DB25
Power Supply	2	AC/DC

Note

The SFP connector looks different when an optic module exists. The agent receives a message when no connector exists at all.

The following ordering options are available for Optimux-34:

- USER-ETH port
- V.35 port
- One or two Uplinks
- Alarms connector.

Optimux-34 Indicators

This section provides lists and color/status descriptions of the Optimux-34 device LED indicators.

The Optimux-34 View window uses the standard RAD color codes to indicate operational and communication status of the agent, links/ports and power supply.

The first upper half of the system in the window contains the local LEDs and the second lower half contains the remote LEDs. The order of the LEDs in Optimux-34 unit is as follows:

1. Sync Loss Link A
2. Sync Loss Link B
3. System Flt
4. Power A
5. Power B
6. AIS Link A
7. AIS Link B
8. 100 MNG-ETH
9. Link/Act MNG-ETH
10. 100 User-ETH
11. Link/ACT USER-ETH
12. System-TST

Port Status Indicators

Operational status for ports will be indicated by color within the port itself. The port status is color-coded in gray, magenta, or blue. *Table 2-4* lists and describes the port status colors.

There is no indication for the Control and Alarm ports.

Figure 2-15. Port Status (Blue)

Table 2-4. Port Status Indicators

Port	Color	Description
MNG-ETH	Magenta	Errors exist
	Gray	No errors exist and no tests are running
USER-ETH	Magenta	Errors exist
	Gray	No errors exist and no tests are running
E1	Magenta	When line status experiences Loss of Signal or any other failure
	Blue	The loopback test is running.
	Gray (in all other cases)	If the line status has no alarm
V.35	Magenta	When line status experiences Loss of Signal or any other failure
	Blue	The loopback test is running.
	Gray (in all other cases)	If the line status has no alarm
E3 Link	Magenta	When line status experiences Loss of Signal or any other failure
	Blue	The loopback test is running.
	Gray (in all other cases)	When line status experiences no alarm

Note

When a port may contain several statuses, only the most severe status color is displayed. (Magenta is most severe, then blue, then gray.)

Agent Status Indicators

The Optimux version name on the front panel of both Local and Remote devices are framed with a thin colored frame in green, white, or red. This frame indicates the agent status, as summarized in *Table 2-5* below.

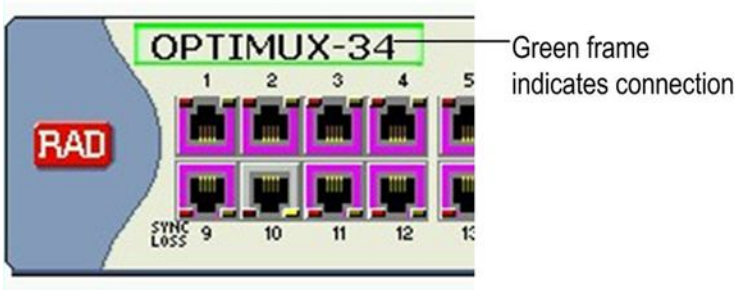


Figure 2-16. Agent Status Indicator

Table 2-5. Agent Status Indicators

Location	Color	Description
Local device	Green	Connected
	White	Disconnected
	Red	No Connection Local Optimux only
Remote device	Green	Connected
	White	Disconnected

Power Supply LEDs and Indicators

There are four power supply unit representations for both local and remote devices when both devices are present in the window.

Figure 2-17. Power Supply Status LEDs and Indicators

The LED colors and descriptions for both power supplies on both local and remote units are as shown in *Table 2-6*.

Table 2-6. Power Supply Indicators

Power Supply	Color	Description
Local Device Power A	Gray	Power supply active
	Magenta	Power supply fault
Local Device Power B	Gray	Power supply active
	Magenta	Power supply fault
Remote Device Power A	Gray	Power supply active
	Magenta	Power supply Fault
Remote Device Power B	Gray	Power supply active
	Magenta	Power supply fault

When power supply B is not available for the local unit (including its operating switch), then power supply B does not exist on the remote device.

If the remote device is disconnected, the power supply LED colors are as last displayed. If it goes on for the first time, the color is green.

Optimux-34 LEDs

RADview/TDM for Optimux-34 displays LED indicators in real-time as they actually appear on the device. The LED indications describe communication and operation status of Optimux-34 and its links (see Table 2-7, below).

Table 2-7. Optimux-34 LED Summary

Name	Color	LED On	LED Off	Blinking
Power A	Green	Power Supply A is active	Power is Off on both Power Supplies A and B	
	Red	Power Supply A fault, or Power Supply B is On and Power Supply A is Off	Power Supply is Off on both Power Supplies A and B	
Power B	Green	Power Supply B is active	Power is Off on both Power Supplies A and B	
	Red	Power Supply B fault, or Power Supply A is On and Power Supply B is Off	Power Supply is Off on both Power Supplies A and B	
System FLT	Red	System Fault (Self-test fail, Agent fault)		
System TST	Yellow	System on test (any kind of loop)		
Sync Loss A	Red	Signal Loss is detected on the main link		If the following conditions occurs at the same time: • Redundancy mode is defined as Manual • Link A is defined as main link • Link A is OK (No Signal Loss or AIS) • Link B is active.
AIS A	Yellow	AIS is detected on the main link		

Name	Color	LED On	LED Off	Blinking
Sync Loss B	Red	Signal Loss detected on the main link		If the following conditions occur at the same time: • Redundancy mode is defined as Manual • Link B is defined as the main link. • Link B is OK (no Signal Loss or AIS) • Link A is active.
AIS B	Yellow	AIS is detected on the main link.		
MNG-ETH: 100	Green	100M mode	10M mode	
MNG-ETH: Link/Act	Yellow	Management Ethernet link is up	Management Ethernet link is down	Management Ethernet link is up and the Rx/Tx frames are transmitted
USER-ETH: 100	Green	100M mode	10M mode	
USER-ETH: Link/Act	Yellow	User Ethernet link is up	Data Ethernet link is down	User Ethernet link is up and Rx/Tx frames are transmitted
Sync Loss on E1 ports	Red	Signal Loss is detected on the respective E1 port	Port not in use or the port is not physically connected	
AIS on E1 ports	Yellow	AIS is detected on respective E1 port		

Chapter 3

Configuration Management

This chapter discusses how to configure the Optimux-34 management system using RADview/TDM.

Managing the system includes the following tasks:

- Viewing and modifying system configuration
- Viewing and modifying system parameters
- Configuring Ethernet, V.35, E1, and E3 Link, and port parameters
- Viewing system interfaces
- Resetting system hardware
- Resetting system configuration.

3.1 Configuring Optimux-34 for Network Management

RADview/TDM allows you to view and modify Optimux-34 configuration. The **Configuration** menu provides access to system level configuration.

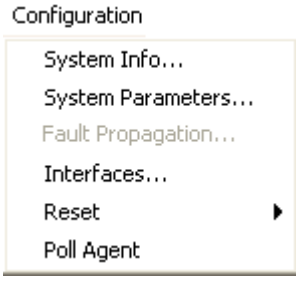


Figure 3-1. System Level Configuration Menu

Viewing and Configuring System Information

The **System Info** command enables you to view and set physical information about the Optimux-34.

➤ **To view and configure Optimux-34 system information:**

1. In the Optimux-34 View window, select the system.

2. On the menu bar, click **Configuration > System Info**.

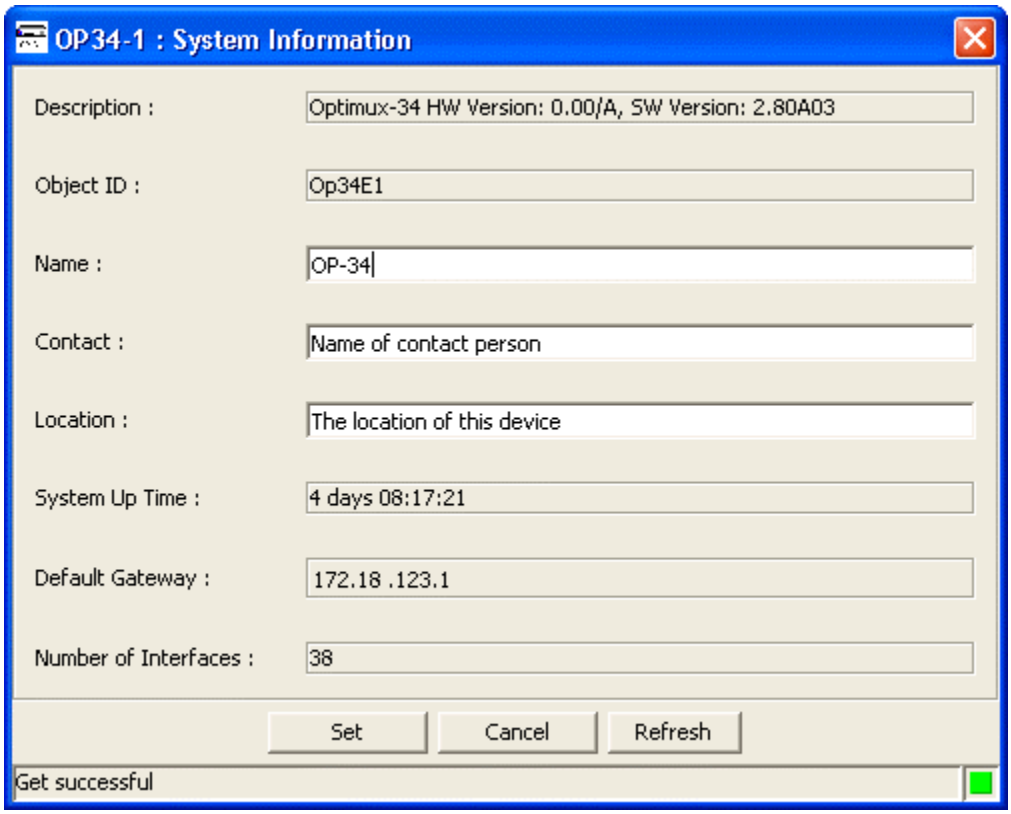


Figure 3-2. System Information Dialog Box

3. Fill in the fields, as described in *Table 3-1*.
4. Click <**Set**> to implement the changes.

Table 3-1. System Information Dialog Box Parameters

Parameter	Possible Values / Remarks
Description	The description of the device, including the full name and version identification of the device's hardware type and software operating-system. Read-Only
Object ID	The system identification number Read-Only
Name	System name Format: **String (12 characters)** Read-Write
Contact	Name of the contact person for this system Format: **String (32 characters)** Read-Write
Location	Physical location of the device Format: **String (32 characters)** Read-Write

Parameter	Possible Values / Remarks
System Up Time	The length of time the system has been running. Format: **d: days, hh:mm:ss** Read-Only
Default Gateway	The IP address of the default gateway Read-Only
Number of Interfaces	The number of network interfaces present in the system. Read-Only

Note

The System Information Name, Contact, and Location dialog box fields are enabled, regardless whether there is communication with the agent.

Configuring System Parameters

RADview/TDM allows you to view and configure the system parameters of both the local and the remote devices.

➤ **To view and configure general Optimux-34 system parameters:**

1. In the Optimux-34 View window, select the system (as described in *Selecting the System* in *Chapter 2*).
2. On the menu bar, click **Configuration > System**.

   The System Parameters dialog box appears. It contains configuration parameters for local and remote devices. The System Parameters dialog box is divided into two columns: the first column shows the local device and the second column shows the remote device. The parameter names are common to both columns.

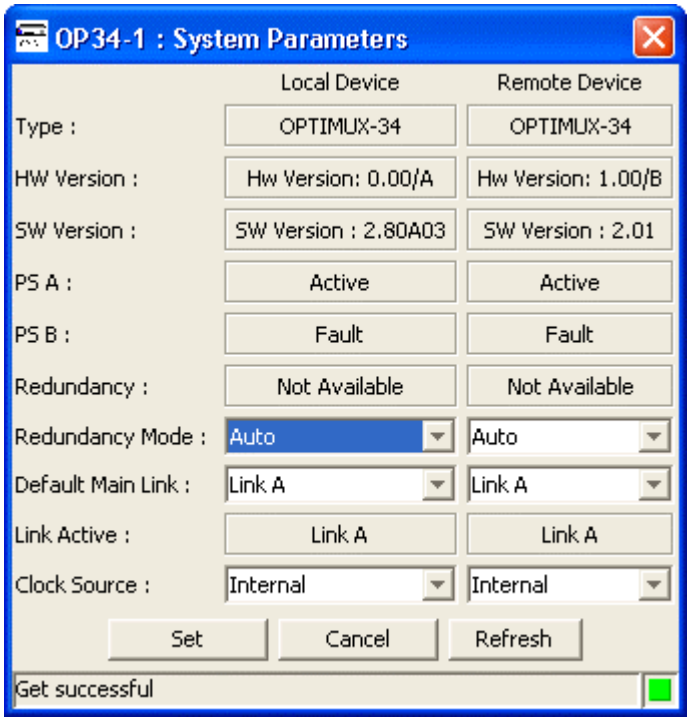


Figure 3-3. System Parameters Dialog Box

3. Fill in the fields, as described in *Table 3-2*.
4. Click ‹**Set**› to implement the changes.

Table 3-2. System Dialog Box Parameters (Local/Remote)

Parameter	**Possible Values / Remarks**
Type	Indicates the Optimux-34 device type. Read-Only
HW Version	The hardware version number of the Optimux-34 device. Read-Only
SW Version	The software version number of Optimux-34 device. Read-Only
Power Supply Main	The operating status of the main power supply. **Active** **Fault** **None** **Unknown** Read-Only
Power Supply Backup	The operating status of the backup power supply. **Active** **Fault** **None** **Unknown** Read-Only

Parameter	Possible Values / Remarks
Redundancy	The availability of redundancy on the local/remote device. **Available** **Not Available** Read-Only
Redundancy Mode	The redundancy manner of operation: **Off** **Auto** **Manual** Read-Write If the Redundancy Mode is set to 'Manual', you should manually request the SNMP agent to configure the optSelectLink to 'Main' or 'Back' after the link has switched from main to backup because when the Redundancy Mode is set to 'Manual' it means that there was a problem on the main that has been just fixed. ***Note:*** *This parameter is available only when the device has two links and Redundancy is available.*
Default Main Link	**Link A** **Link B** Read-Write
Link Active	**Link A** **Link B** Read-Only
Clock Source	**Internal** **LBT** Changing the Clock Source from Internal to LBT takes about 2 minutes. A confirmation message is displayed announcing "Changing Clock Source to LBT may take about 2 minutes", click ‹**OK**› or ‹**Cancel**› to acknowledge. Read-Write for the Local device

Note

If the Remote device is disconnected, the fields concerning the remote device will be displayed as" - - " (N/A value).

3.2 Configuring Operational Parameters

This section discusses how to manage Optimux-34 ports for operation using RADview/TDM Optimux-34.

Managing ports includes the following tasks:

- Selecting the port
- Viewing and modifying port parameters, including:
  - E1 port parameters

- E3 Link port parameters
- MNG-ETH port parameters
- USER-ETH port parameters.

Additional port operations are discussed in the following chapters:

- Managing port faults (see Managing Port Alarms in Chapter 7).
- Monitoring port performance and diagnostics (see Performance Monitoring in *Chapter 6*).

Viewing and Configuring Port Parameters

RADview/TDM allows you to view and modify Optimux-34 E1, E3 Link, and Ethernet port parameters.

The **Configuration** menu provides port level configuration information.

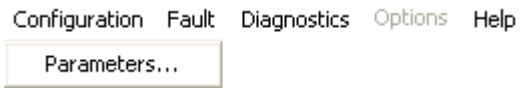


Figure 3-4. Port Level Configuration Menu

Viewing and Configuring Ethernet Port Parameters

You can view and configure Ethernet port parameters.

Note

The USER-ETH port is enabled only per valid license key.

➤ **To view and modify Ethernet port parameters:**

1. In the Optimux-34 View window, select an Ethernet port (MNG-ETH or USER-ETH) on the local or remote device.
2. On the menu bar, click **Configuration > System Parameters**.

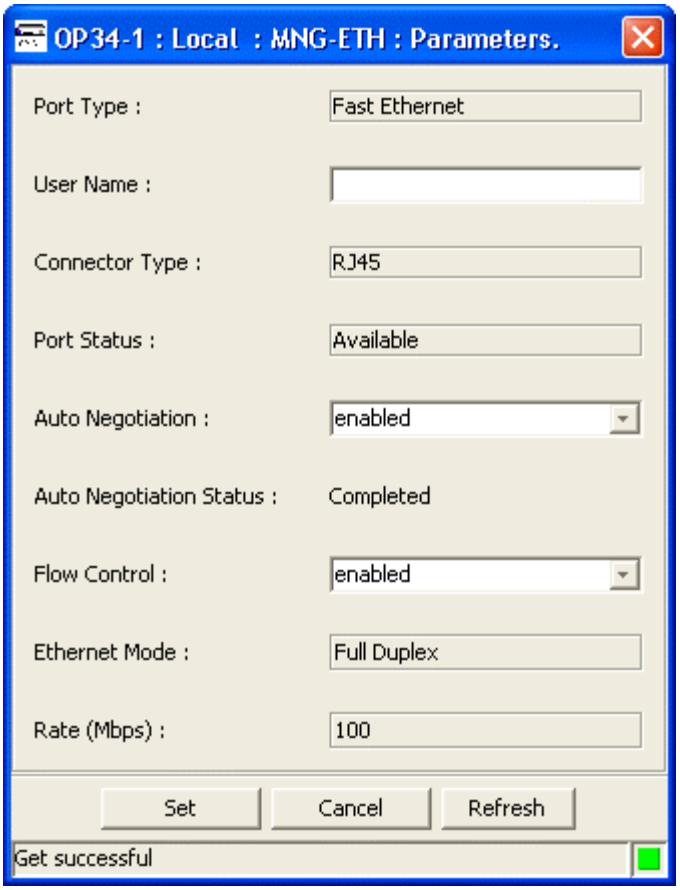


Figure 3-5. MNG-ETH Port Dialog Box

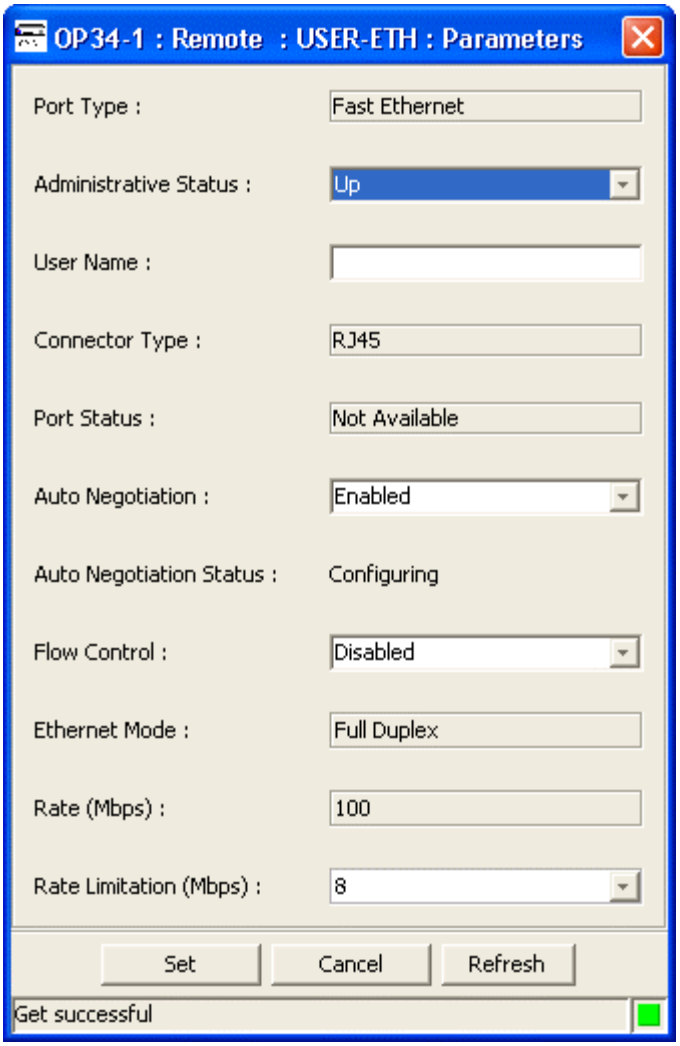


Figure 3-6. USER-ETH Port Dialog Box

3. Fill in the fields, as described in *Table 3-3*.
4. Click ‹**Set**› to implement the changes.

Table 3-3. Ethernet Port Parameters

Parameter	Possible Values / Remarks
Port Type	**Fast Ethernet** Read-Only
Administrative Status	**Up, Down** Port status Selecting **Down** disables the remaining fields in this dialog box and any changed values of RW fields will not be sent the agent Relevant only for USER-ETH port
User Name	**Ethernet port name,** up to 15 characters
Connector Type	**RJ-45** Read-Only
Port Status	**Available:** indicates that the link, light, or loopback is normal **NotAvailable**: indicates link loss, low light, or no loopback Read-Only
Auto Negotiation	**Enabled** (checked) **Disabled** (unchecked) Read-Write
Auto Negotiation Status	**Configuring** **Completed** **Disabled** Read-Only
Flow Control	**Enabled** (checked) **Disabled** (unchecked) Read-Write
Ethernet Mode	**Half-Duplex** **Full-Duplex** ***Note:*** This field is Read-Write only if Autonegotiation is disabled.
Rate (Mbps)	***10*** ***100*** ***Note:*** This field is enabled only if Autonegotiation is disabled. Read-Write/Read-Only
Rate Limitations (Mbps)	**For E1 channels:** **0, 8, 16, 24, 32** Rate limitation is configurable in multiples of 8Mbps. Relevant only for USER-ETH port USER-ETH speed is dependent in the rate limitation configured

Configuring V.35 Port Parameters

You can view and configure parameters for V.35 ports.

➤ **To view and configure V.35 port parameters:**

1. In the Optimux-34 View window, select a V.35 port on the local or remote device.
2. On the menu bar, click **Configuration > Parameters**.

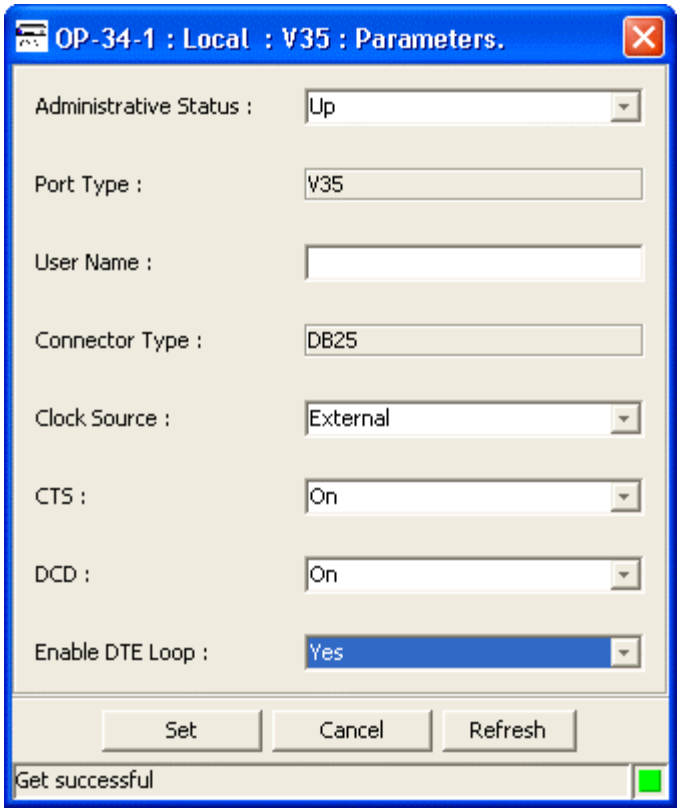


Figure 3-7. V.35 Port Parameters Dialog Box

3. Fill in the fields, as described in *Table 3-4*.
4. Click ‹**Set**› to implement the changes.

Table 3-4. V.35 Port Parameters

Parameter	Possible Values / Remarks
Administrative Status	**Up, Down** Port status Selecting **Down** disables the remaining fields in this dialog box and any changed values of RW fields will not be sent the agent
Port Type	**V.35** Read-Only
User Name	**V.35 port name,** up to 15 characters
Connector Type	**DB25** Read-Only
Clock Source	*LBT (Default)* *Internal* *External*
CTS	*ON (Default)* *RTS*
DCD	*Link OK* *ON*
Enable DTW Loop	**No (Default** **Yes**

Configuring E1 Channel Port Parameters

You can view and configure parameters for the E1 channels.

➤ **To view and configure E1 port parameters:**

1. In the Optimux-34 View window, select an E1 channel port (ports 1-16 from either the local or remote unit).
2. On the menu bar, click **Configuration › Parameters**.

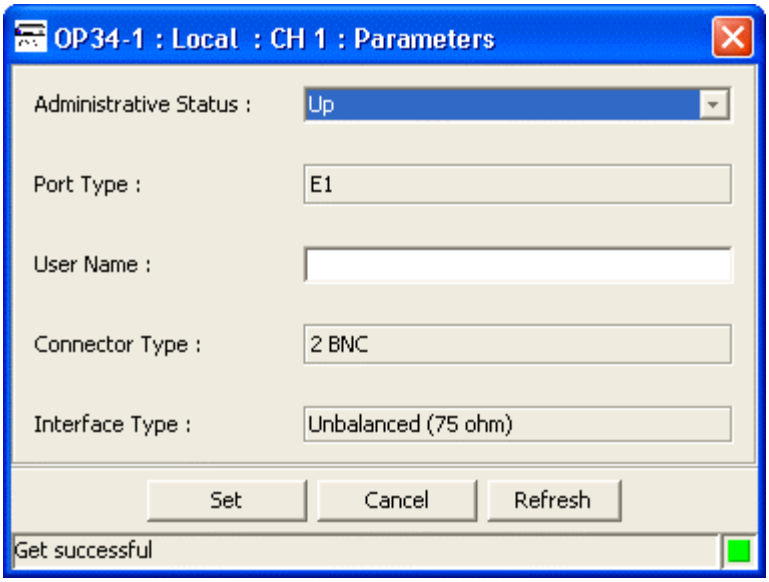


Figure 3-8. E1 Channel Parameters Dialog Box

3. Fill in the fields, as described in *Table 3-5*.
4. Click ‹**Set**› to implement the changes.

Note *If the User-ETH port has been configured to a rate › 0, the corresponding E1 ports fields will be all Read-Only, and the ‹**Set**› button will be disabled.*

Table 3-5. E1 Port Parameters

Parameter	Possible Values / Remarks
Administrative Status	**Up** **Down** Read-Write (Read-Only, see ***Note*** above)
Port Type	**E1** Read-Only
User Name	The name for the interface as specified by the network manager. String of up to 15 characters Read-Write
Connector Type	**RJ-45** Read-Only
Interface Type	**Unbalanced: 75Ω** **Balanced: 120Ω** Read-Write

Configuring E3 Link Parameters

You can view and configure parameters for the E3 link ports (Link A or Link B).

➤ **To view and configure E3 link port parameters:**

1. In the Optimux-34 View window, select an E3 link port (Link A or Link B) on the local or remote device.
2. On the menu bar, click **Configuration › Parameters**.

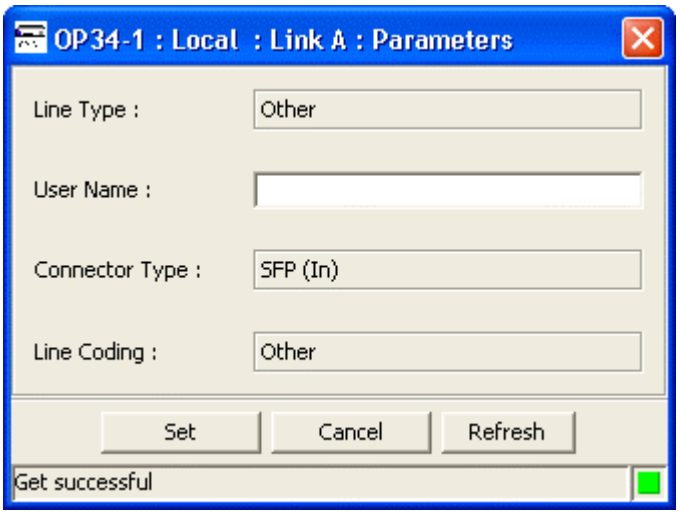


Figure 3-9. E3 Link Port Parameters Dialog Box

3. Fill in the fields, as described in *Table 3-6*.
4. Click ‹**Set**› to implement the changes.

Table 3-6. E3 (Link) Port Parameters

Parameter	Possible Values / Remarks
Line Type	**Other** **Framed** Read-Only
User Name	The name for the interface as specified by the network manager. String of up to 15 characters Read-Write
Connector Type	For Coax: **2 Mini BNCs** For Fiber: **SFP (In)** **SFP (Out)** Read-Only
Line Coding	For Coax: **HDB3** For Fiber: **Other** Read-Only

3.3 Additional Tasks

Viewing System Interfaces

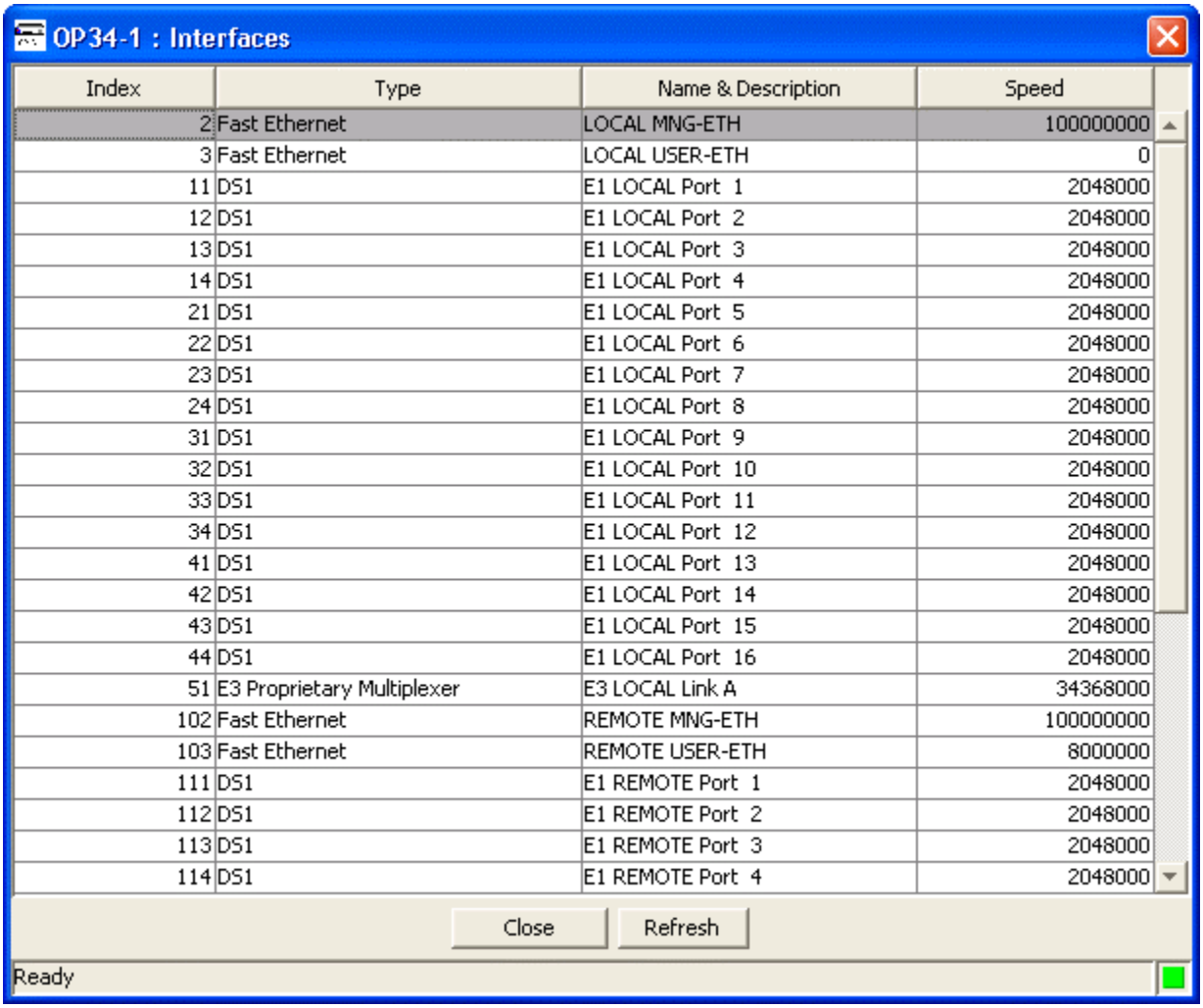
RADview/TDM allows you to view details about the system interfaces of the local and remote Optimux-34 devices.

➤ **To view system interfaces:**

1. In the Optimux-34 View window, select the system (as described in *Selecting the System* in *Chapter 2*).
2. On the menu bar, click **Configuration > Interfaces**.

Note

Clicking on one of the column headings in the Interfaces dialog box sorts the entries according to that sort-method.



Index	Type	Name & Description	Speed
2	Fast Ethernet	LOCAL MNG-ETH	100000000
3	Fast Ethernet	LOCAL USER-ETH	0
11	DS1	E1 LOCAL Port 1	2048000
12	DS1	E1 LOCAL Port 2	2048000
13	DS1	E1 LOCAL Port 3	2048000
14	DS1	E1 LOCAL Port 4	2048000
21	DS1	E1 LOCAL Port 5	2048000
22	DS1	E1 LOCAL Port 6	2048000
23	DS1	E1 LOCAL Port 7	2048000
24	DS1	E1 LOCAL Port 8	2048000
31	DS1	E1 LOCAL Port 9	2048000
32	DS1	E1 LOCAL Port 10	2048000
33	DS1	E1 LOCAL Port 11	2048000
34	DS1	E1 LOCAL Port 12	2048000
41	DS1	E1 LOCAL Port 13	2048000
42	DS1	E1 LOCAL Port 14	2048000
43	DS1	E1 LOCAL Port 15	2048000
44	DS1	E1 LOCAL Port 16	2048000
51	E3 Proprietary Multiplexer	E3 LOCAL Link A	34368000
102	Fast Ethernet	REMOTE MNG-ETH	100000000
103	Fast Ethernet	REMOTE USER-ETH	8000000
111	DS1	E1 REMOTE Port 1	2048000
112	DS1	E1 REMOTE Port 2	2048000
113	DS1	E1 REMOTE Port 3	2048000
114	DS1	E1 REMOTE Port 4	2048000

Figure 3-10. Interfaces Dialog Box

3. Click ‹**Refresh**› to refresh the statistics or click ‹**Close**› to close the window.

Table 3-7. Interfaces Dialog Box Parameters

Parameter	**Possible Values / Remarks**
Index	The link/port number in the Interface table Read-Only
Type	The link/port type, such as DS1, Ethernet or SLIP Read-Only
Name & Description	The name and description of the interface Read-Only
Speed	The connection speed for this interface, in bytes Read-Only

Resetting the System Hardware

RADview/TDM allows you to reset the Optimux-34 hardware configuration. Resetting the system hardware resets the Agent.

➤ **To reset hardware configuration:**

1. In the Optimux-34 View window, select the system (as described in *Selecting the System* in *Chapter 2*).

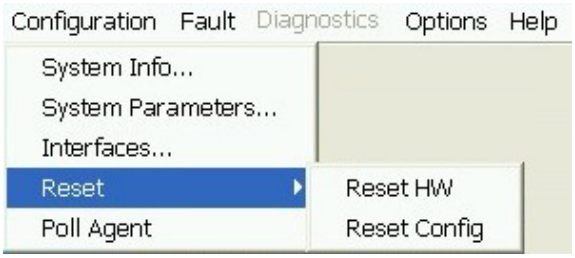


Figure 3-11. System Level Configuration › Reset Menu

2. On the menu bar, click **Configuration › Reset › Reset HW**.

   A confirmation dialog box is displayed.
   Selecting this entry will enable the user to reset the agent's hardware.

Figure 3-12. Reset Agent Confirmation Message Dialog Box

3. Click ‹**OK**› to reset.

Resetting System Configuration

RADview/TDM allows you to reset the Optimux-34 parameters to default values.

➤ **To reset hardware configuration:**

1. In the Optimux-34 View window, select the system (as described in *Selecting the System* in *Chapter 2*).
2. On the menu bar, click **Configuration › Reset › Reset Config**.

   A confirmation message appears.
   Selecting this entry will enable you to reset the agent's configuration to its default values.

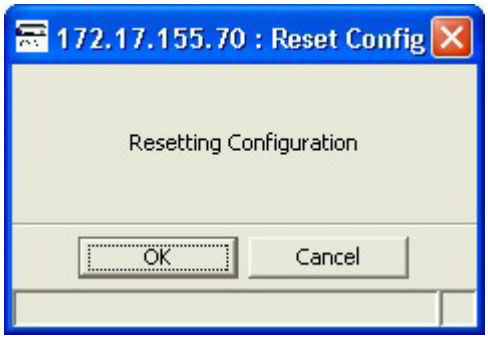


Figure 3-13. Reset Agent Confirmation Message Dialog Box

3. Click ‹**OK**› to reset.

Chapter 4

Configuring Typical Applications

This chapter describes the procedure for the configuration of a typical application, which is performed after completing the physical installation of the units. This procedure is accomplished through the use of the RADview/TDM Optimux-34.

4.1 Applications

The following sections describe typical Optimux-34 applications.

Backbone Data Network Application

In the application shown in the following figure, a coax link module is installed in the Optimux-34 unit that is physically close to the public network. The other Optimux-34 is equipped with a fiber optic link interface to extend its transmission range. The optical link is connected to a fiber optic modem (FOM) with an E3 interface, which is coupled to the public network via a coaxial cable.

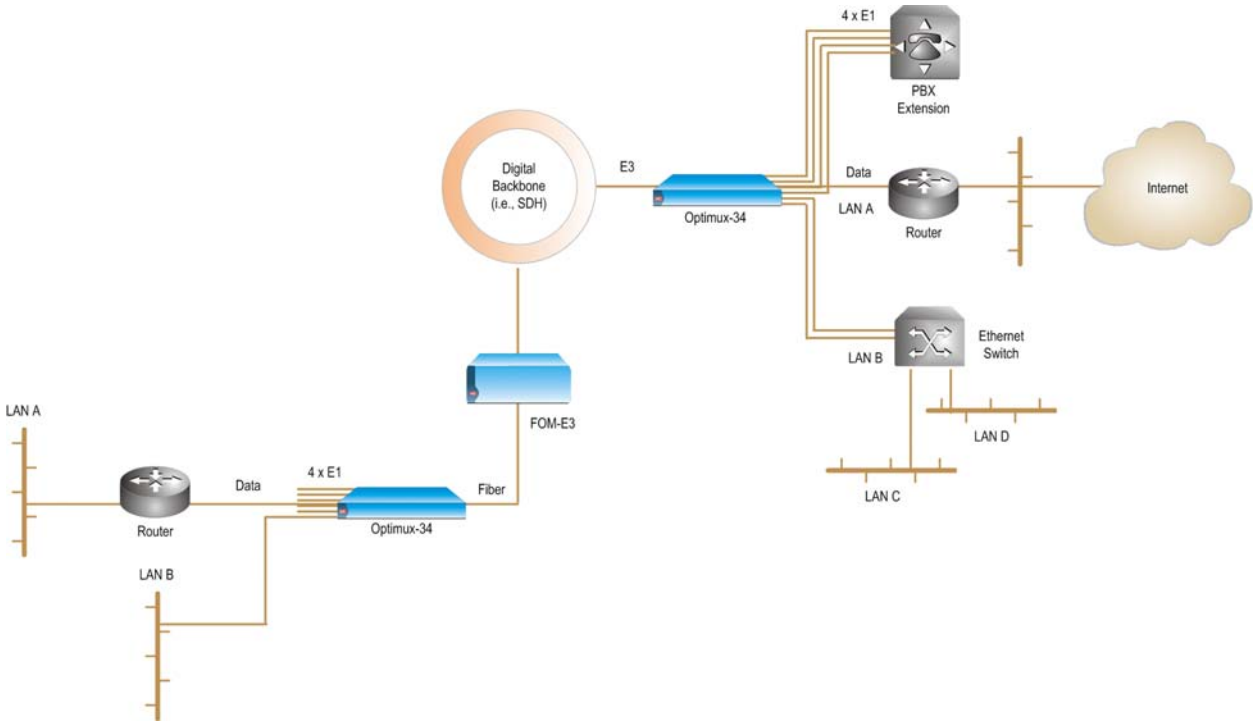


Figure 4-1. Optimux-34 Backbone Access Application

E1 Fan-Out over Satellite Link Application

An E1 fan-out over satellite link application shown in *Figure 4-2* is a satellite link connecting two Optimux-34 units. The Optimux-34 unit can be connected to a Megaplex-2100 unit and a network management service (NMS). A coax link module is installed in each of the Optimux-34 unit that is physically close to the satellite device.

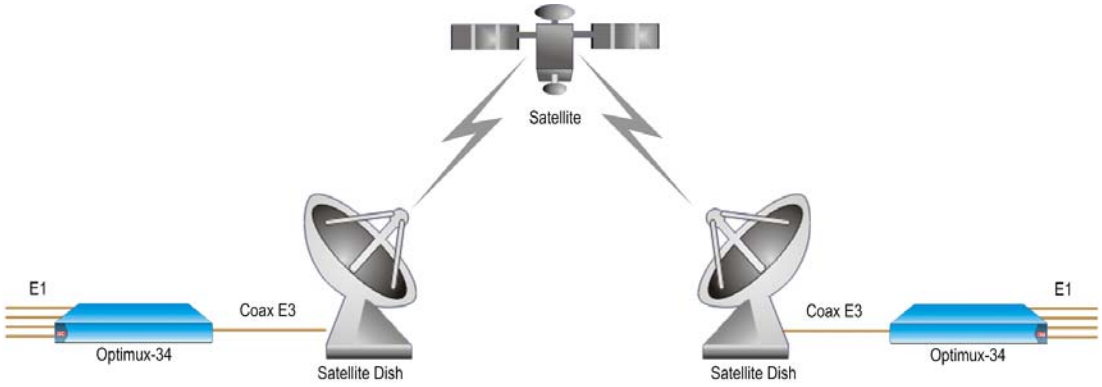


Figure 4-2. E1 Fan-Out over Satellite Link Application

4.2 Configuring Optimux-34

You can use the following procedures to configure Optimux-34.

Configuring System Information

You can configure system information.

➤ **To configure system information:**

1. In the Optimux-34 View window, select the system.
2. On the menu bar, click **Configuration > System Info** (see *Figure 3-1*).

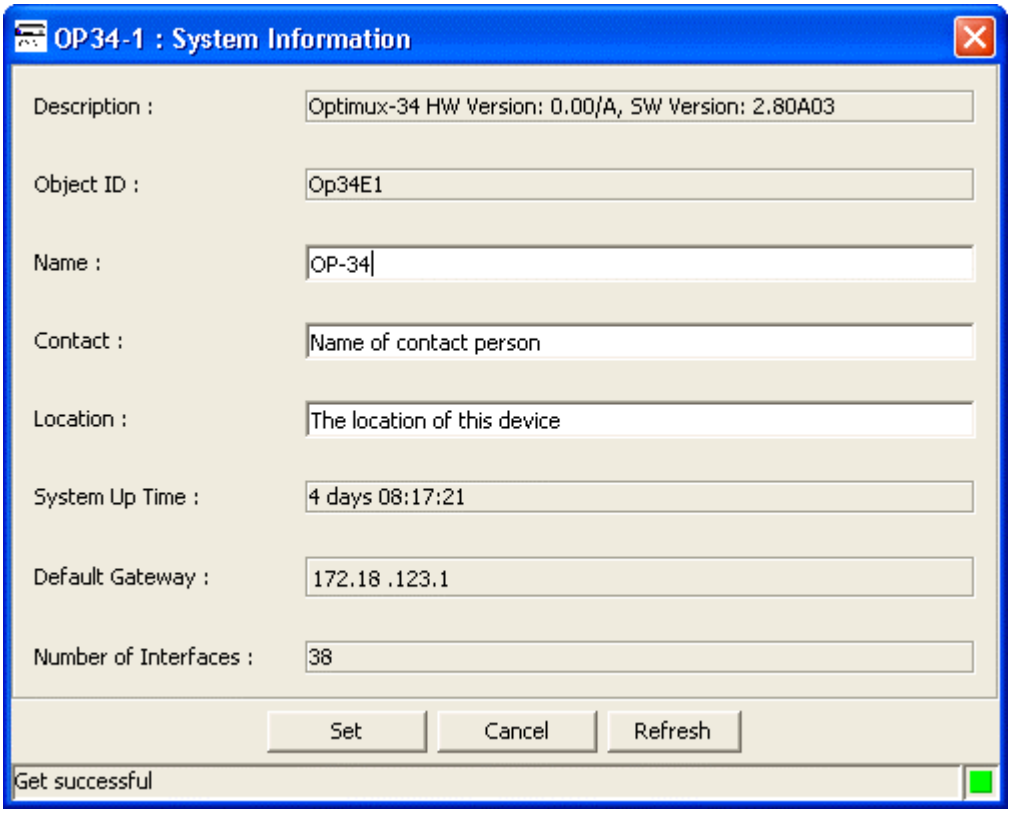


Figure 4-3. System Information Dialog Box

3. Fill in the fields, as described in *Table 4-1*.
4. Click ‹**Set**› to implement the changes.

Table 4-1. System Information Dialog Box Parameters

Parameter	Possible Values / Remarks
Description	The description of the device, including the full name and version identification of the device's hardware type and software operating-system. Read-Only
Object ID	The system identification number Read-Only
Name	System name Format: **String (12 characters)** Read-Write
Contact	Name of the contact person for this system Format: **String (32 characters)** Read-Write
Location	Physical location of the device Format: **String (32 characters)** Read-Write

Parameter	Possible Values / Remarks
System Up Time	The length of time the system has been running. Format: **d: days, hh:mm:ss** Read-Only
Default Gateway	The IP address of the default gateway Read-Only
Number of Interfaces	The number of network interfaces present in the system. Read-Only

Note

The System Information Name, Contact, and Location dialog box fields are enabled, regardless whether there is communication with the agent.

Configuring System Parameters

You can configure system parameters.

➤ **To configure system parameters:**

1. On the menu bar, click **Configuration > System Parameters** (see *Figure 3-1*).

   The System Parameters dialog box appears. It contains configuration parameters for local and remote devices. The parameter names are common to both columns.

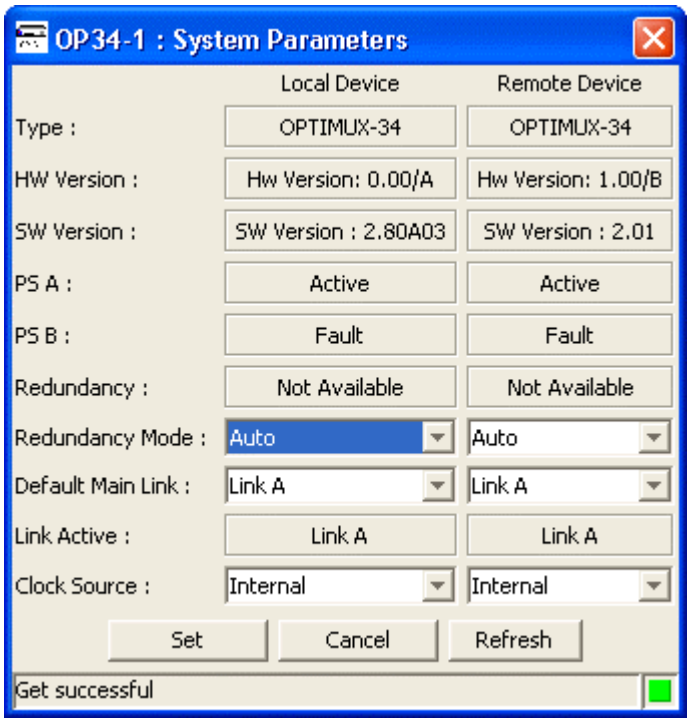


Figure 4-4. System Parameters Dialog Box

2. Fill in the fields, as described in *Table 4-2*.

3. Click ‹**Set**› to implement the changes.

Table 4-2. System Dialog Box Parameters (Local/Remote)

Parameter	Possible Values / Remarks
Type	Indicates the Optimux-34 device type. Read-Only
HW Version	The hardware version number of the Optimux-34 device. Read-Only
SW Version	The software version number of Optimux-34 device. Read-Only
Power Supply Main	The operating status of the main power supply. **Active** **Fault** **None** **Unknown** Read-Only
Power Supply Backup	The operating status of the backup power supply. **Active** **Fault** **None** **Unknown** Read-Only
Redundancy	The availability of redundancy on the local/remote device. **Available** **Not Available** Read-Only
Redundancy Mode	The redundancy manner of operation: **Off** **Auto** **Manual** Read-Write If the Redundancy Mode is set to 'Manual', you should manually request the SNMP agent to configure the optSelectLink to 'Main' or 'Back' after the link has switched from main to backup because when the Redundancy Mode is set to 'Manual' it means that there was a problem on the main that has been just fixed. ***Note:*** *This parameter is available only when the device has two links and Redundancy is available.*
Default Main Link	**Link A** **Link B** Read-Write
Link Active	**Link A** **Link B** Read-Only

Parameter	Possible Values / Remarks
Clock Source	**Internal** **LBT** Changing the Clock Source from Internal to LBT takes about 2 minutes. A confirmation message is displayed announcing "Changing Clock Source to LBT may take about 2 minutes", click ‹**OK**› or ‹**Cancel**› to acknowledge. Read-Write for the Local device

Configuring SNMP

You can configure SNMP settings to specify the management station(s) that can transmit or receive Optimux-34 traps.

➤ **To configure SNMP:**

1. On the menu bar, click **Options › Manager List** (see *Figure 3-4*).

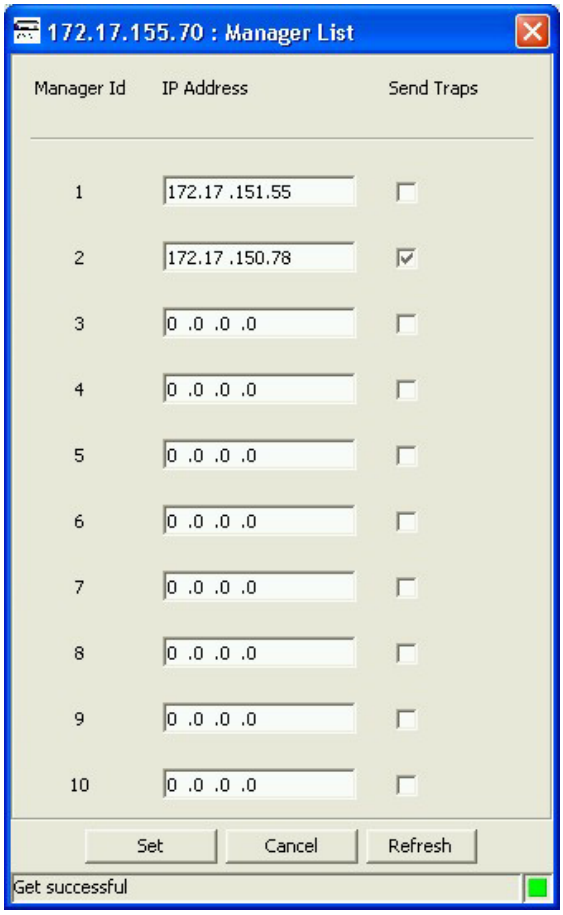


Figure 4-5. Manager List Dialog Box

2. Change the IP addresses, as required.
3. You can elect not to send traps to a selected address by clearing the relevant **Send Traps** check box adjacent to that address.
4. Click ‹**Set**› to implement the change.

Management Access

➤ **To enable/disable Telnet and Web management accesses:**

1. On the menu bar, click **Options › Management Access** (see *Figure 3-4*).

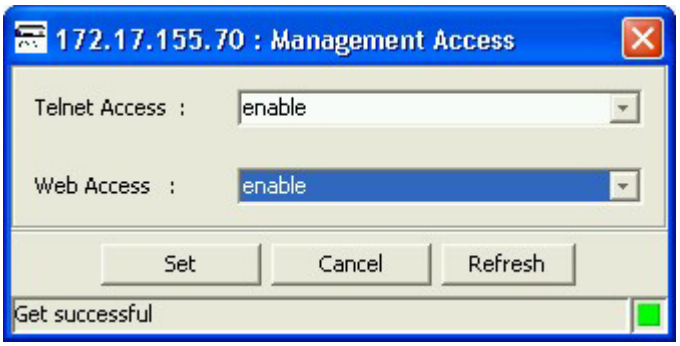


Figure 4-6. Management Access Dialog Box

2. Select **Enable** or **Disable** for Telnet Access, as required.
3. Select **Enable** or **Disable** for Web Access, as required.
4. Click ‹**Set**› to implement the change(s).

4.3 Connecting Optimux-34 to the Management Station

You can perform the following parameters to connect Optimux-34 to the management station.

Configuring Port Parameters

You can configure Optimux-34 port parameters.

➤ **To configure port parameters:**

1. In the Optimux-34 View window, select an E1 (Ports 1-16), E3 Link (A or B)), or MNG-ETH, or USER-ETH port from either the local or remote unit.
2. On the menu bar, click **Configuration › Parameters** (see *Figure 3-7*).

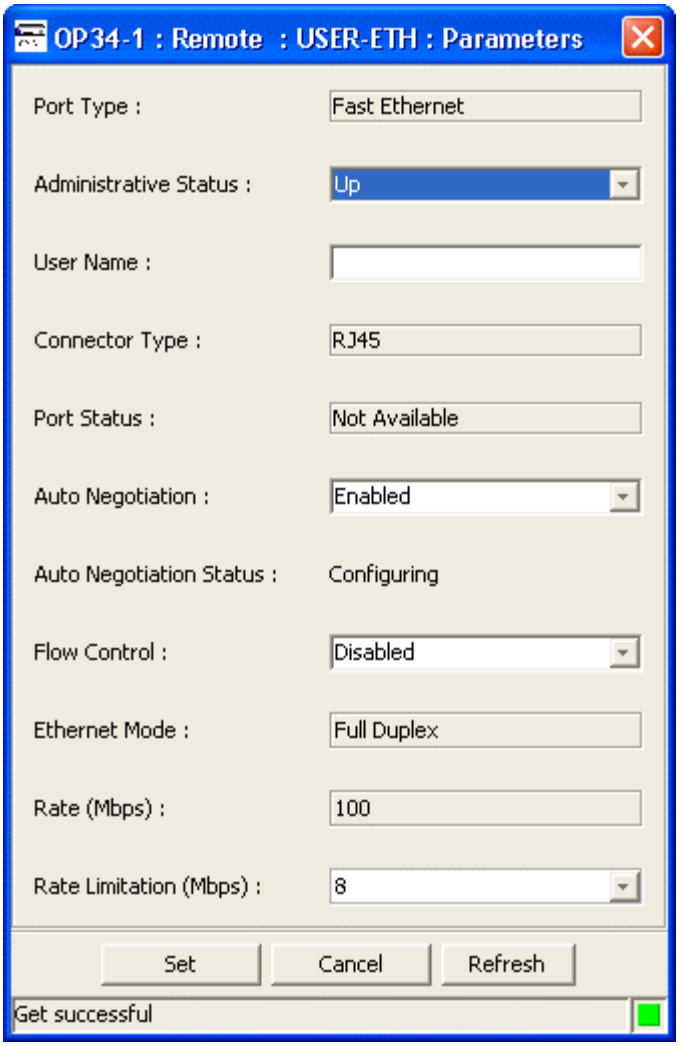


Figure 4-7. USER-ETH Port Dialog Box

3. Fill in the fields, as described in *Table 4-3*.
4. Click ‹**Set**› to implement the changes.

Table 4-3. Ethernet Port Parameters

Parameter	Possible Values / Remarks
Port Type	**Fast Ethernet** Read-Only
Administrative Status	**Up, Down** Port status Selecting **Down** disables the remaining fields in this dialog box and any changed values of RW fields will not be sent the agent Relevant only for USER-ETH port
User Name	**Ethernet port name,** up to 15 characters
Connector Type	**RJ-45** Read-Only
Port Status	**Available:** indicates that the link, light, or loopback is normal **NotAvailable**: indicates link loss, low light, or no loopback Read-Only
Auto Negotiation	**Enabled** (checked) **Disabled** (unchecked) Read-Write
Auto Negotiation Status	**Configuring** **Completed** **Disabled** Read-Only
Flow Control	**Enabled** (checked) **Disabled** (unchecked) Read-Write
Ethernet Mode	**Half-Duplex** **Full-Duplex** ***Note:*** This field is Read-Write only if Autonegotiation is disabled.
Rate (Mbps)	***10*** ***100*** ***Note:*** This field is enabled only if Autonegotiation is disabled. Read-Write/Read-Only
Rate Limitations (Mbps)	**For E1 channels:** **0, 8, 16, 24, 32** Rate limitation is configurable in multiples of 8Mbps. Relevant only for USER-ETH port USER-ETH speed is dependent in the rate limitation configured

Note *The USER-ETH port is available/enabled only per valid license. If the USER-ETH port has been configured to a rate > 0, the corresponding E1 ports fields will be all Read-Only, and the <**Set**> button will be disabled.*

Configuring V.35 Port Parameters

You can view and configure parameters for V.35 ports.

➤ **To view and configure V.35 port parameters:**

1. In the Optimux-34 View window, select a V.35 port on the local or remote device.
2. On the menu bar, click **Configuration > Parameters**.

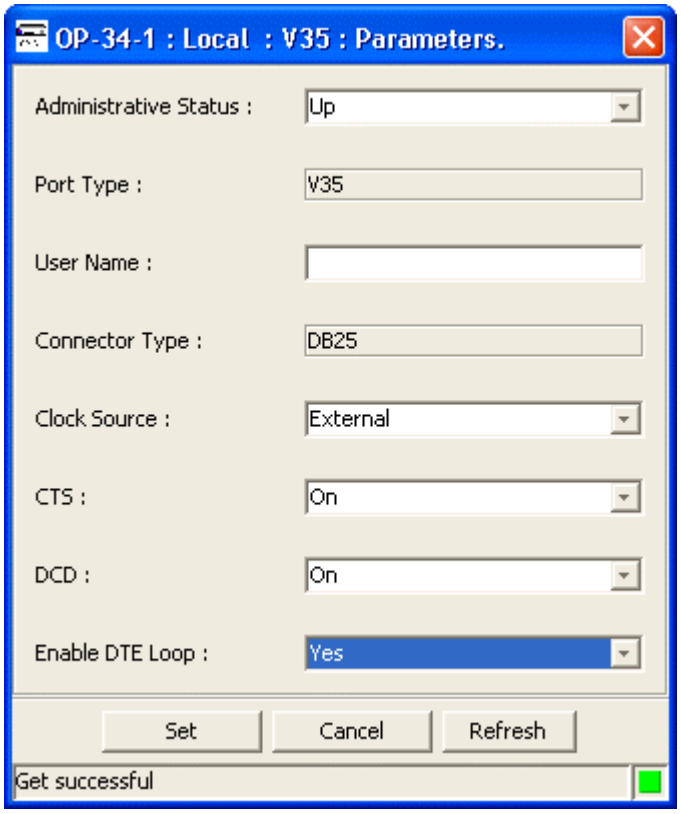


Figure 4-8. V.35 Port Parameters Dialog Box

3. Fill in the fields, as described in *Table 4-4*.
4. Click <**Set**> to implement the changes.

Table 4-4. V.35 Port Parameters

Parameter	Possible Values / Remarks
Administrative Status	**Up, Down** Port status Selecting **Down** disables the remaining fields in this dialog box and any changed values of RW fields will not be sent the agent
Port Type	**V.35** Read-Only
User Name	**V.35 port name,** up to 15 characters
Connector Type	**DB25** Read-Only
Clock Source	**LBT (Default)** **Internal** **External**
CTS	**ON (Default)** **RTS**
DCD	**Link OK** **ON**
Enable DTW Loop	**No (Default** **Yes**

Configuring E1 Channel Port Parameters

You can view and configure parameters for the E1 channels.

➤ **To view and configure E1 port parameters:**

1. In the Optimux-34 View window, select an E1 channel port (ports 1-16 from either the local or remote unit).
2. On the menu bar, click **Configuration › Parameters**.

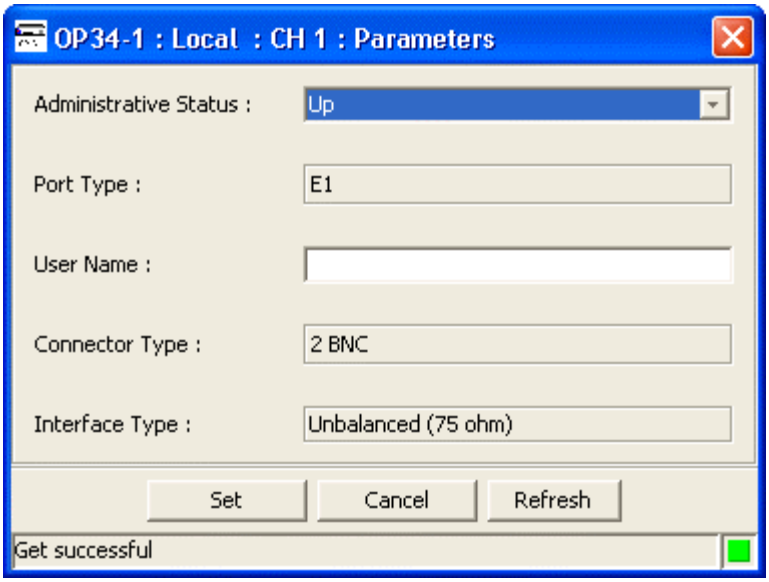


Figure 4-9. E1 Channel Parameters Dialog Box

3. Fill in the fields, as described in *Table 4-5*.
4. Click ‹**Set**› to implement the changes.

Note *If the User-ETH port has been configured to a rate › 0, the corresponding E1 ports fields will be all Read-Only, and the ‹**Set**› button will be disabled.*

Table 4-5. E1 Port Parameters

Parameter	Possible Values / Remarks
Administrative Status	**Up** **Down** Read-Write (Read-Only, see *Note* above)
Port Type	**E1** Read-Only
User Name	The name for the interface as specified by the network manager. String of up to 15 characters Read-Write
Connector Type	**RJ-45** Read-Only
Interface Type	**Unbalanced: 75** **Balanced: 120** Read-Write

Configuring Link Parameters

You can view and configure parameters for the link ports (Link A or Link B).

➤ **To view and configure link port parameters:**

1. In the Optimux-34 View window, select a link port (Link A or Link B) on the local or remote device.
2. On the menu bar, click **Configuration › Parameters**.

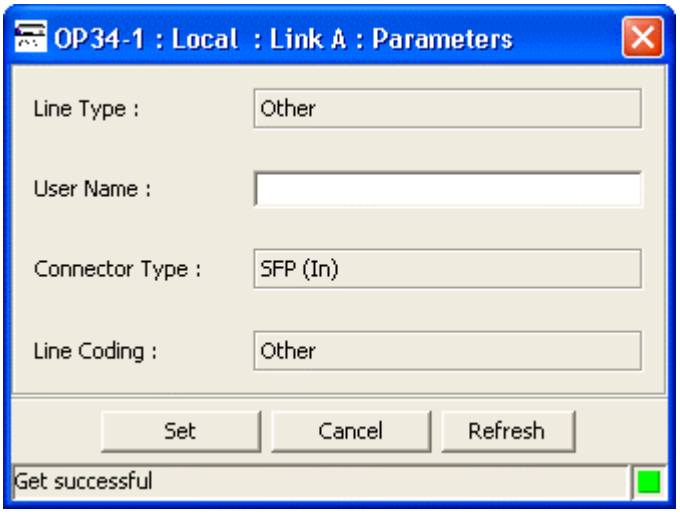


Figure 4-10. Link Port Parameters Dialog Box

3. Fill in the fields, as described in *Table 4-6*.
4. Click ‹**Set**› to implement the changes.

Table 4-6. E3 (Link) Port Parameters

Parameter	Possible Values / Remarks
Line Type	**Other** **Framed** Read-Only
User Name	The name for the interface as specified by the network manager. String of up to 15 characters Read-Write
Connector Type	For Coax: **2 Mini BNCs** For Fiber: **SFP (In)** **SFP (Out)** Read-Only
Line Coding	For Coax: **HDB3** For Fiber: **Other** Read-Only

4.4 Configuring Security Management

You can configure security management for RADview/TDM Optimux-34.

➤ **To configure security management:**

5. Add/Create users as required. For details on how to add users in Optimux-34, see *Chapter 4*, *RADview Functions Security* in the *RADview-EMS/TDM (PC)* documentation.

1. Change user Names as required.
   For details on how to change a user name in Optimux-34, see *Chapter 4*, *RADview Functions Security* in the *RADview-EMS/TDM (PC)* documentation.

2. Change passwords as required.
   For details on how to change passwords in Optimux-34, see *Chapter 4*, *RADview Functions Security* in the *RADview-EMS/TDM (PC)* documentation.

Polling the Agent

You can poll the agent to update the Optimux-34 device status.

➤ **To poll the agent:**

1. In the Optimux -34 View window, select the Optimux-34 system.
2. On the menu bar, click **Configuration** › **Poll Agent**.

   The components are polled and their status is updated immediately.

Resetting the System Hardware

RADview/TDM allows you to reset the Optimux-34 hardware configuration. Resetting the system hardware resets the Agent.

➤ To reset hardware:

1. In the Optimux-34 View window, select the system.
2. On the menu bar, click **Configuration > Reset > Reset HW**.
3. Click <**OK**> to reset the agent's hardware.

Resetting System Configuration

RADview/TDM allows you to reset the Optimux-34 hardware configuration. Resetting the system hardware resets the Agent.

➤ To reset system configuration:

1. In the Optimux-34 View window, select the system.
2. On the menu bar, click **Configuration > Reset > Reset Config**.
3. Click <**OK**> to reset the agent's configuration to its default values.

4.5 Configuration Sequence

The following describes the step-by-step configuration sequence for the Optimux-34 local and remote units through the RADview/TDM Optimux-34.

Table 4-7. RADview/TDM Optimux-34 Configuration Sequence

Task Description	System Level	Port Level (MNG-ETH, USER-ETH, V.35, E1, Link)
Configuring and viewing system information	√	
Configuring and viewing system parameters	√	
Configuring and viewing port parameters		√
Viewing system interfaces	√	
Defining manager list	√	
Setting management access	√	
Polling agent	√	
Managing alarms	√	
Listing alarm history log	√	
Clearing alarm history log	√	

Task Description	System Level	Port Level (MNG-ETH, USER-ETH, V.35, E1, Link)
Masking alarms	√	
Performing loopback tests		√
Resetting hardware	√	
Resetting hardware configuration	√	

Chapter 5

Performance Management

5.1 Introduction

This chapter discusses how to monitor the performance of the Optimux-34 system using RADview/TDM Optimux-34.

5.2 Polling the Agent

Polling the agent updates the Optimux-34 device status. You can execute either manual or automatic polling of the Optimux-34 system. Device components are automatically polled once every minute. However, you can also manually poll and update the status of the components.

➤ **To manually poll the agent components:**

1. In the Optimux-34 View window, select the Optimux-34 system (as described in *Selecting the System* in *Chapter 2*).
2. On the menu bar, click **Configuration > Poll Agent**.

   The components are polled and their status is updated immediately.

Selecting this entry will cause immediate polling of the Agent.

Chapter 6

Security Management

This chapter discusses how to manage security through assigning access authorizations for the Optimux-34 system using RADview/TDM.

The basic tasks involved in security management or access authorization management are:

- Configuring SNMP
- Configuring Management Access.

RADview/OV on Unix supports the Security feature. Security defines different types of users:

- Administrator
- Operator
- Technician
- Monitor.

Each user type has different access permission(s) to the product's application data. Some of them have Read-Write access to all or part of the menus and dialog boxes; others have only Read-Only access to part of the menus/dialog boxes. The menu looks the same for all users. If you are a user that has only Read-Only access and attempts to enter a dialog box, select a menu entry that you do not have permission to, or to press the ‹**Set**› button (or a similar Read-Write one), a message box will then be displayed stating that you have no access to the selected entry/dialog box/operation.

When a Read-Write menu entry or a dialog box is allowed (to be ‹**Set**›) for a Technician, the paragraph detailing this entry/dialog box will include (T) at the end.

When a Read-Write menu entry or dialog box is allowed (to be Set) for a Monitor, the paragraph detailing this entry/dialog box, will include at the end: (M). In this case, Technician is also allowed to perform Set.

‹**Print**› and ‹**Refresh**› are buttons that are enabled for Monitor users.

6.1 Configuring SNMP

RADview/TDM allows you to view and modify SNMP settings; enabling you to specify the management station(s) that can transmit or receive Optimux-34 traps. There may be between one to ten management stations defined.

You cannot change the number of management stations, or the Manager IDs, but you can change the IP address/es.

➤ **To view or specify the management station IP address to which to send traps:**

1. In the Optimux-34 View window, select the system.

Figure 6-1. Manager List and Management Access Sub-Menus

2. On the menu bar, click **Options** › **Manager List**.

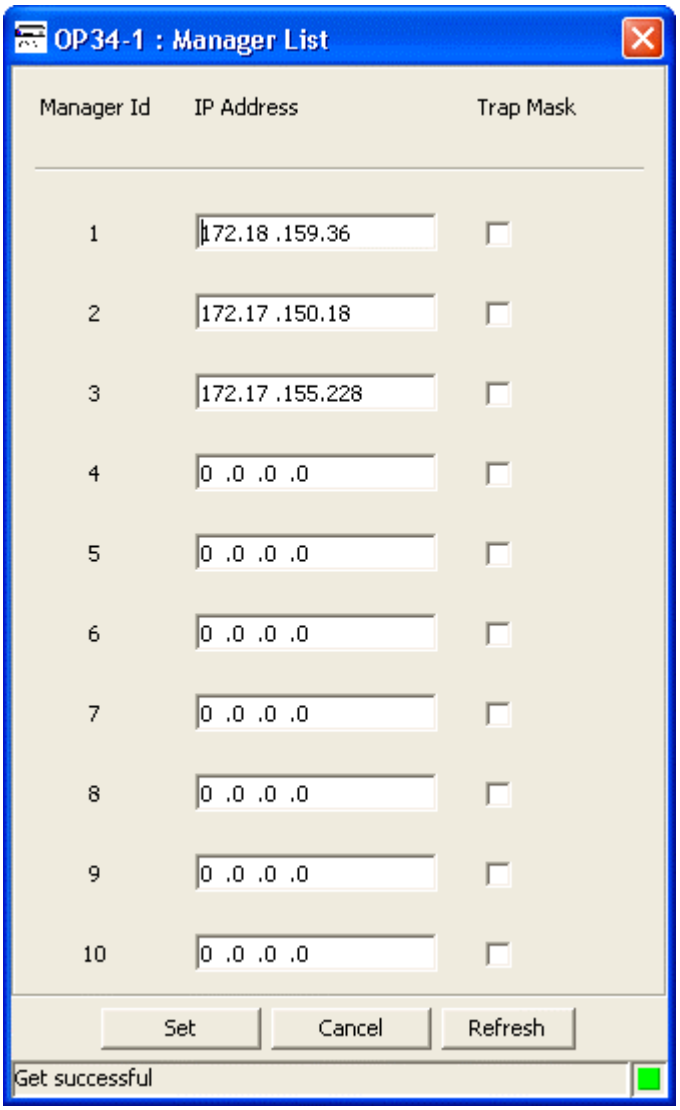


Figure 6-2. Manager List Dialog Box

3. Change the IP addresses, as required.
4. You can elect not to send traps to a selected address by clearing the relevant **Send Traps** check box adjacent to that address.
5. Click ‹**Set**› to implement the change.

6.2 Configuring Management Access

RADview/TDM Optimux-34 enables/disables you to access Telnet and Web management access.

➤ **To enable/disable Telnet and Web management accesses:**

1. In the Optimux-34 View window, select the system.
2. On the menu bar, click **Options > Management Access**.

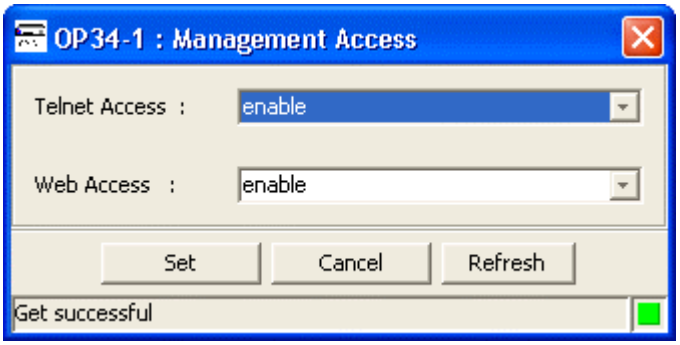


Figure 6-3. Management Access Dialog Box

3. Select **Enable** or **Disable** for Telnet Access, as required.
4. Select **Enable** or **Disable** for Web Access, as required.
5. Click ‹**Set**› to implement the change(s).

Table 6-1. Management Access Parameters

Parameter	Possible Values / Remarks
Telnet Access	**Enable** **Disable** Read-Write
Web Access	**Enable** **Disable** Read-Write

Chapter 7

Fault Management

This chapter discusses how to manage faults for the entire Optimux-34 system using RADview/TDM Optimux-34.

RADview/TDM allows you to manage Optimux-34 system and port alarms.

Managing faults includes the following tasks:

- Managing system alarms
- Managing the following port alarms:
  - E1
  - E3 Link
  - MNG-ETH
  - USER-ETH
  - V.35.
- Performing loopback tests.

7.1 Managing System Alarms

RADview/TDM allows you to manage Optimux-34 system alarms.

Basic tasks include:

- Viewing all active alarms
- Viewing system alarms
- Viewing alarm history in the System Alarm Buffer
- Clearing alarms in the System Alarm Buffer
- Masking port alarms.

7.2 Handling Alarms and Traps

The **Fault** menu provides access to the system alarm options. You can view alarm severity as well as clear alarms.

Figure 7-1. Fault Menu – System Level

List of Alarms and Events

The Optimux-34 alarms are described in *Table 7-1*.

Table 7-1. Optimux-34 System Alarms

Code	Message on terminal	Description		Severity
1	PS A fail	No voltage in power supply A.		Major
2	PS B fail	No voltage in power supply B.		Major
3	Remote connection FAIL	A managment connection could not be established with the remote device.		Major
4	Redundancy not available	Redundancy mode is set to AUTO or MANUAL but the second link is not installed.		Major
30	ETH Integrity fail	Failure in Ethernet management port integrity or in the fast Ethernet integrity.	ETH-MNG ETH	Major
31	Signal Loss	Signal loss detected on uplinks or channels.	E1 LINK	Major
33	Rx AIS	Received AIS on the uplinks or the channels.	E1 LINK	Minor

The Optimux-34 events are described in *Table 7-2*.

Table 7-2. Optimux-34 Events

Code	Event	Description
100	Software process failed	Failed to process software download.
101	Buffer overflow	The event log buffer exceeded its maximum size and new events are written over the old ones.

Viewing All Active Alarms

The **All Active Alarms** command enables you to view all active alarms of the local and remote devices in the system.

➤ **To view all active alarms for the system:**

1. In the RADview/TDM Optimux-34 window, select the system.
2. On the menu bar, click **Fault** › **All Active Alarms**.

Note *You can sort the Alarms by clicking any of the column headings.*

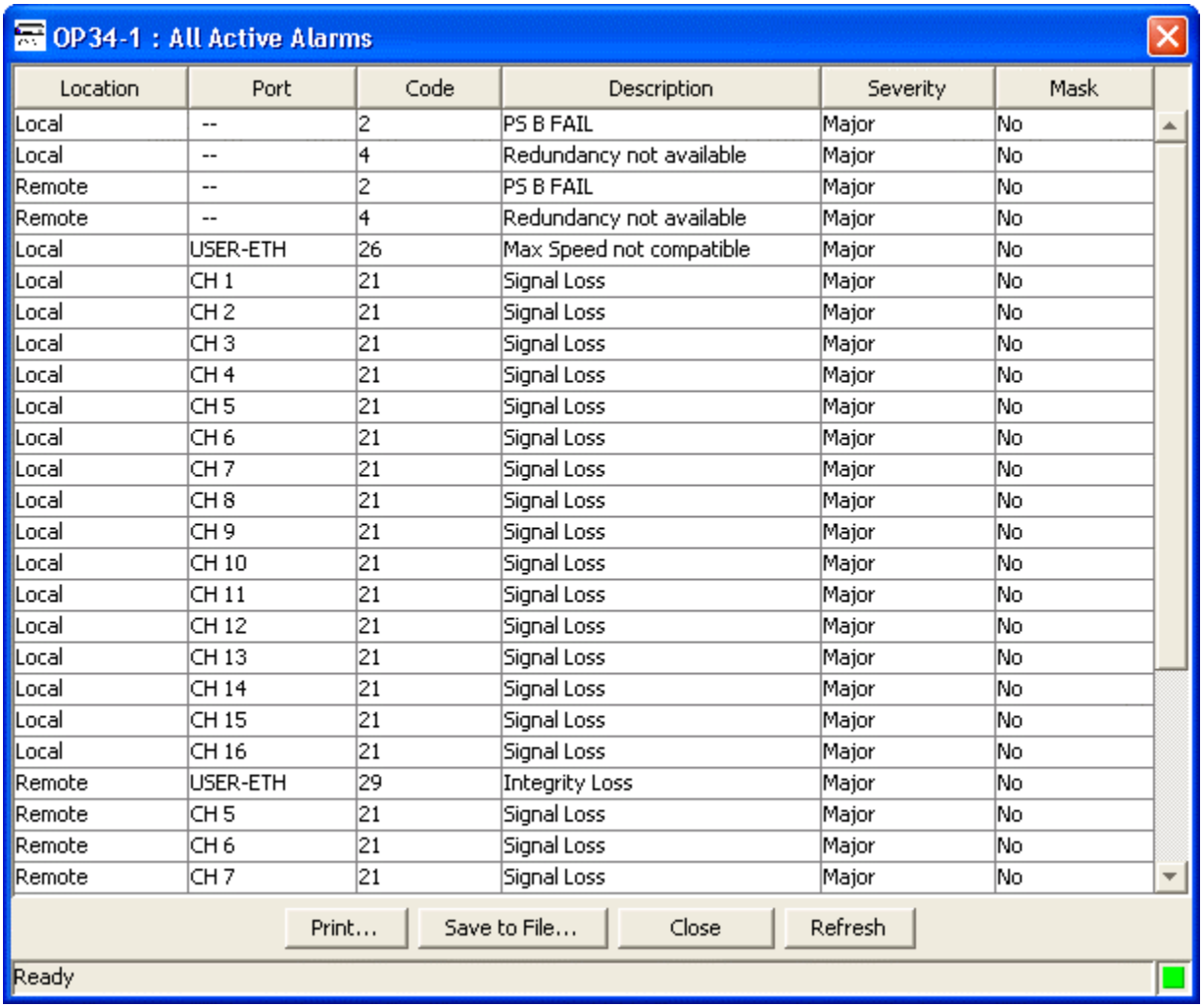

OP34-1 : All Active Alarms
Location Port Code Description Severity Mask
Local -- 2 PS B FAIL Major No
Local -- 4 Redundancy not available Major No
Remote -- 2 PS B FAIL Major No
Remote -- 4 Redundancy not available Major No
Local USER-ETH 26 Max Speed not compatible Major No
Local CH 1 21 Signal Loss Major No
Local CH 2 21 Signal Loss Major No
Local CH 3 21 Signal Loss Major No
Local CH 4 21 Signal Loss Major No
Local CH 5 21 Signal Loss Major No
Local CH 6 21 Signal Loss Major No
Local CH 7 21 Signal Loss Major No
Local CH 8 21 Signal Loss Major No
Local CH 9 21 Signal Loss Major No
Local CH 10 21 Signal Loss Major No
Local CH 11 21 Signal Loss Major No
Local CH 12 21 Signal Loss Major No
Local CH 13 21 Signal Loss Major No
Local CH 14 21 Signal Loss Major No
Local CH 15 21 Signal Loss Major No
Local CH 16 21 Signal Loss Major No
Remote USER-ETH 29 Integrity Loss Major No
Remote CH 5 21 Signal Loss Major No
Remote CH 6 21 Signal Loss Major No
Remote CH 7 21 Signal Loss Major No
Print...
Save to File...
Close
Refresh
Ready

Figure 7-2. All Active Alarms Dialog Box

Table 7-3. All Active Alarms Parameters

Parameter	Possible Values	Remarks
System Level Alarms		
Location	**Local, Remote**	
Port	**--**	The Port column is relevant only for Port level.
Code	**Integer**	Alarm code
Description	**String**	Description of the alarm
Severity	**Major, Minor**	
Mask	**No, Yes**	

Parameter	Possible Values	Remarks
Port Level Alarms		
Location	**Local, Remote**	
Port	**Channel 1-4, 5-8, 9-12, 13-16** **Link A,** **Link B** **MNG-ETH** **USER-ETH** **V.35**	
Code	**Integer**	Active Alarm code
Description	**String**	Description of the active alarm
Severity	**Major**, **Minor**	
Mask	**No, Yes**	
[Done]		Click <**Done**> to close the All Active Alarms Dialog Box
[Print]		Click <**Print**> to print the active alarms
[Save To File]		Click <**Save To File**> to save the active alarms. The Save dialog box appears. In the File Name field, enter the name of the file. In the File of type field, select **Acrobat (*pdf)** or **HTML (*.htm)**. Click **Save**
[Refresh]		Click <**Refresh**> to update the active alarms

Viewing System Alarms

RADview/TDM allows you to view all the active alarms of both the local and remote devices. The window displays a list of current Optimux-34 system alarms, their code and severity related to the system level.

You can sort the alarm list by clicking on any column you wish to sort.

➤ **To view system alarms:**

1. In the Optimux-34 View window, select the system.
2. On the menu bar, click **Fault > Alarms**.

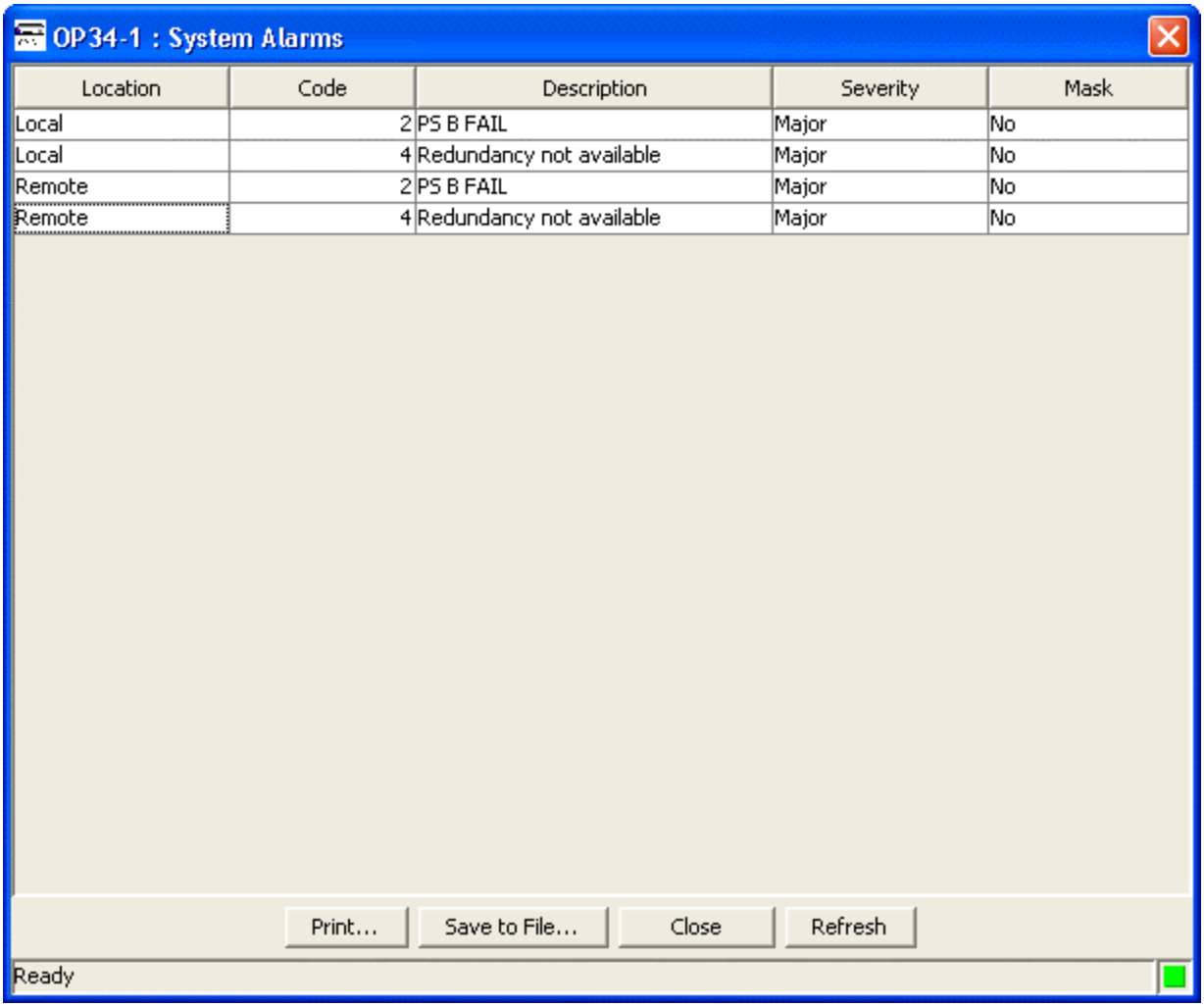


Figure 7-3. System Alarms Dialog Box

3. Do one of the following:

   - Sort the alarm list by clicking on one of the columns on the list. It is possible to sort the list through each column.

     Optimux-34 sorts the alarms by location as a default; first local and then remote

   - To send the active alarms to a printer, click ‹**Print**›.
   - To save the active alarms to a file, click ‹**Save File**›, select a location where to save the file, then name the file and click ‹**Save**›.
   - To exit this window, click ‹**Close**› or update the window by clicking ‹**Refresh**›.

Table 7-4. System Alarm Parameters

Parameter	Possible Values / Remarks
Location	Indicates the location where the alarm occurred **Local** **Remote** Read-Only
Code	The code for the specific alarm **1...40** Read-Only
Description	The description of the alarm corresponding to the specified code Read-Only
Severity	The alarm severity **Major** **Minor** Read-Only
Mask	Masks system alarms **Yes** **No**

Viewing Alarm History in the System Alarm Buffer

RADview/TDM Optimux-34 allows you to view a history log of all the alarms listed in the Optimux-34 System Alarm Buffer. The System Alarm Buffer contains all the unmasked alarms recorded for the whole device.

➤ **To view the System Alarm Buffer List:**

1. In the Optimux-34 window, select the system.
2. One the menu bar, click **Fault** › **History Log** › **List.**

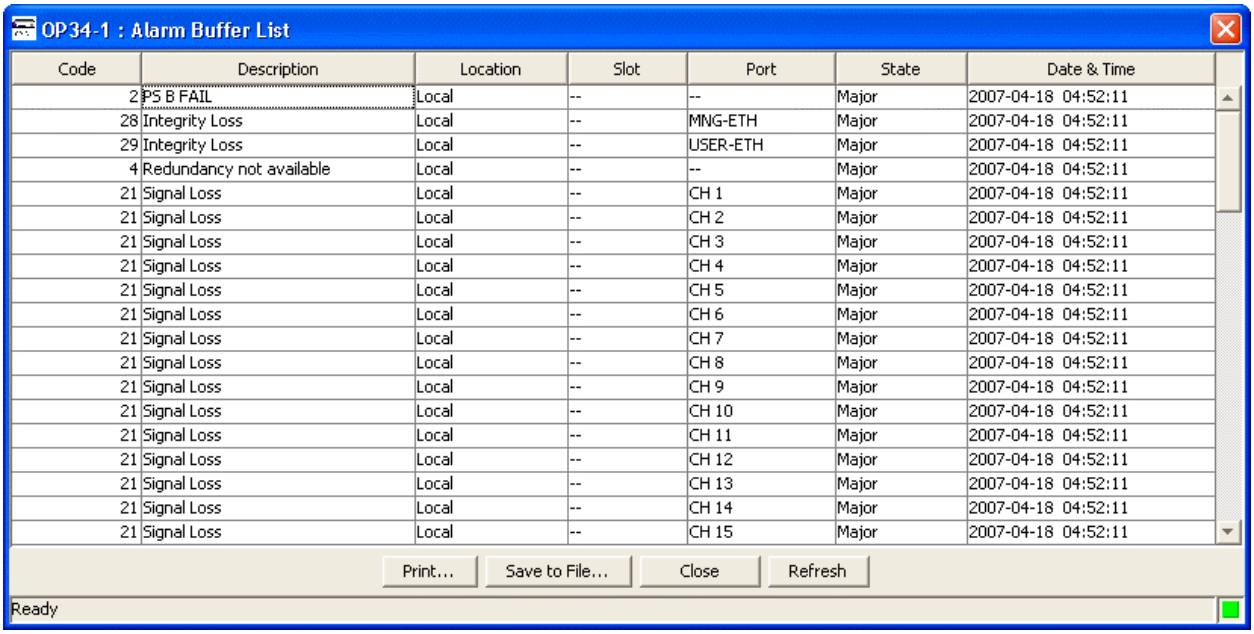

OP34-1 : Alarm Buffer List
Code
Description
Location
Slot
Port
State
Date & Time
2 PS B FAIL Local -- -- Major 2007-04-18 04:52:11
28 Integrity Loss Local -- MNG-ETH Major 2007-04-18 04:52:11
29 Integrity Loss Local -- USER-ETH Major 2007-04-18 04:52:11
4 Redundancy not available Local -- -- Major 2007-04-18 04:52:11
21 Signal Loss Local -- CH 1 Major 2007-04-18 04:52:11
21 Signal Loss Local -- CH 2 Major 2007-04-18 04:52:11
21 Signal Loss Local -- CH 3 Major 2007-04-18 04:52:11
21 Signal Loss Local -- CH 4 Major 2007-04-18 04:52:11
21 Signal Loss Local -- CH 5 Major 2007-04-18 04:52:11
21 Signal Loss Local -- CH 6 Major 2007-04-18 04:52:11
21 Signal Loss Local -- CH 7 Major 2007-04-18 04:52:11
21 Signal Loss Local -- CH 8 Major 2007-04-18 04:52:11
21 Signal Loss Local -- CH 9 Major 2007-04-18 04:52:11
21 Signal Loss Local -- CH 10 Major 2007-04-18 04:52:11
21 Signal Loss Local -- CH 11 Major 2007-04-18 04:52:11
21 Signal Loss Local -- CH 12 Major 2007-04-18 04:52:11
21 Signal Loss Local -- CH 13 Major 2007-04-18 04:52:11
21 Signal Loss Local -- CH 14 Major 2007-04-18 04:52:11
21 Signal Loss Local -- CH 15 Major 2007-04-18 04:52:11
Print...
Save to File...
Close
Refresh
Ready

Figure 7-4. System Alarm Buffer List

3. Do one of the following:

   - Sort the alarm buffer list by clicking on one of the columns on the list. You can sort each column independently. The System Alarm Buffer list is sorted according to the Date and Time column by default with the oldest shown on the first line.
   - To send the alarm buffer to a printer, click **<Print>**.
   - To save the alarm buffer to a file, click **<Save File>**, select a location to where to save the file, name the file and click **<Save>**.
   - To update the list, click **<Refresh>** or exit the window by clicking **<Close>.**

Table 7-5. System Alarm Buffer Parameters

Parameter	Possible Values / Remarks
Code	The code number for the alarm that occurred **1...120** Read-Only
Description	The description of the alarm corresponding to the specified code Read-Only
Location	The device where the alarm ocurred **Local** **Remote** Read-Only
Slot	Slot or link where the alarm occurred (if applicable) **Link A** **Link B** Read-Only
Port	Indicates the port number this alarm refers to (if applicable) **Link A** **Link B** **Channels 1-16** **MNG-ETH** **USER-ETH** **V.35** Read-Only
State	Indicates the alarm type **Off:** Disappearance of an alarm **Event:** Occurrence of an event **Major:** Appearance of a major problem **Minor:** Appearance of a minor problem Read-Only
Date & Time	The date and time the alarm occurred Date format: **yyyy-mm-dd** Time format: **hh:mm:ss** Read-Only

Clearing Alarms in the Alarm Buffer

You can clear the alarm history log contained in the Optimux-34 Alarm Buffer. Selecting this entry will clear all the entries of the Alarm Buffer.

➤ **To clear all alarms in the Alarm Buffer:**

- On the menu bar, click **Fault > History Log > Clear**.

  The History Log is cleared. No user confirmation is provided.

In the History Log List, only alarms that occurred after the Clear operation will be displayed.

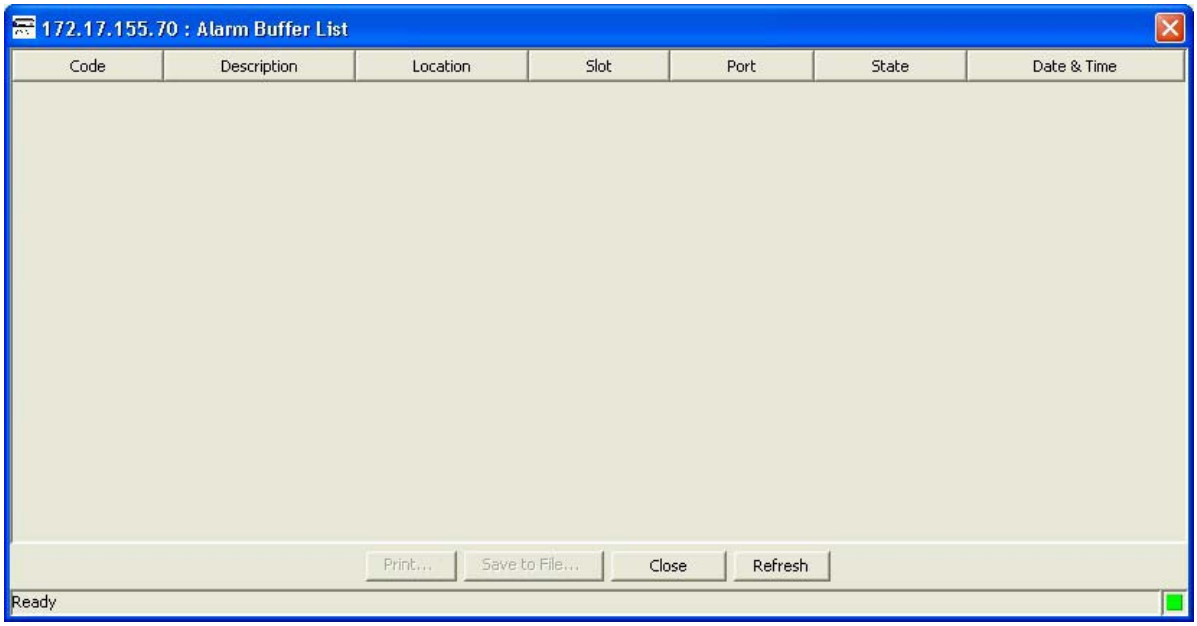


Figure 7-5. Alarm Buffer List after Clearing

Masking Alarms

RADview/TDM Optimux-34 allows you to mask Optimux-34 port alarms. Masking port alarms prevents sending alarm traps to this slot.

➤ **To mask a port alarm:**

1. On the menu bar, click **Fault > Mask Alarms**.

   The Mask Alarms dialog box appears. After a few moments (when the dialog box status bar indicates "Working...", a table of ports per slot appears.

   The Mask Alarms dialog box is divided into two groups: Local Device and Remote Device. The Remote Device area appears only if the remote device is connected.

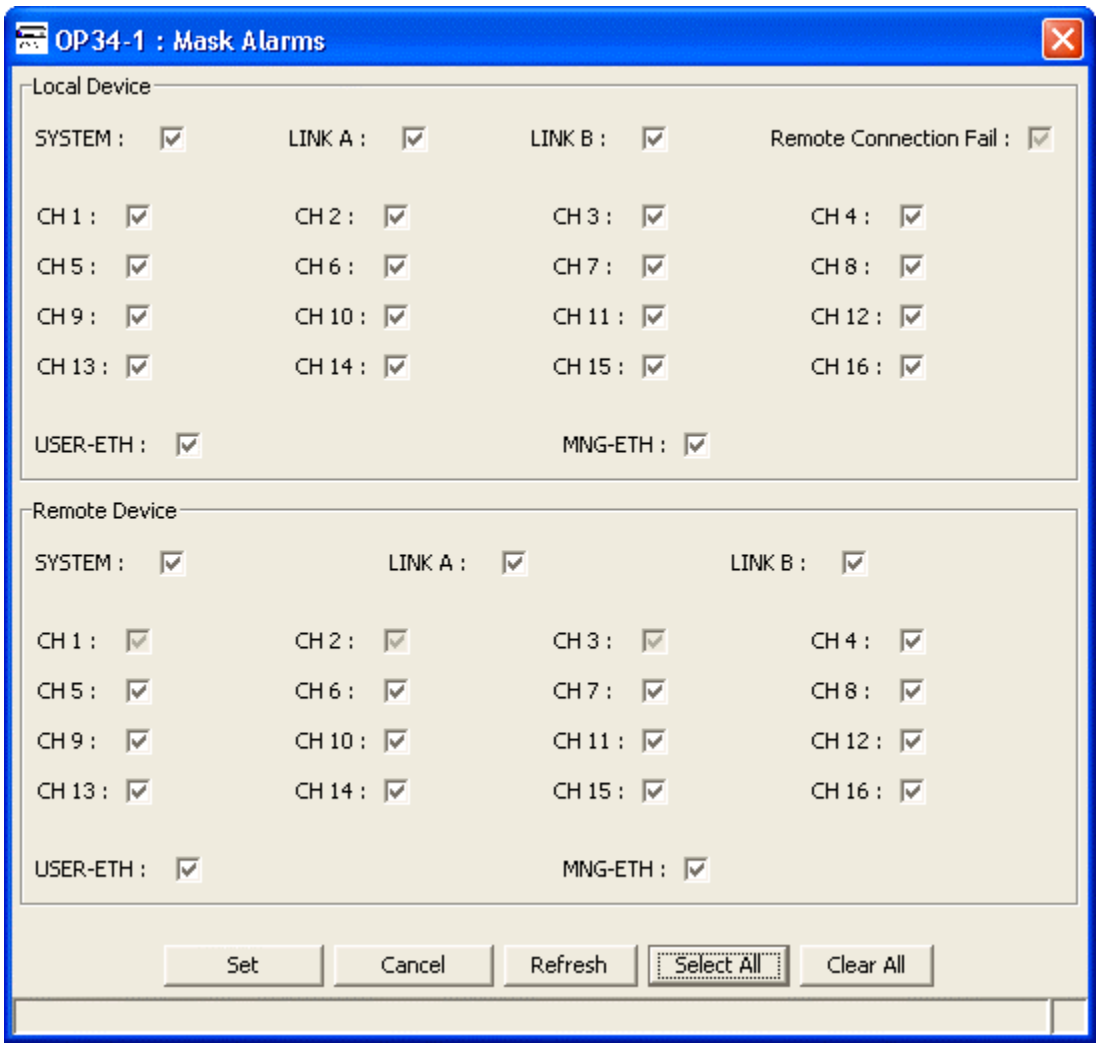


Figure 7-6. Mask Alarms Dialog Box

2. Select the relevant check boxes adjacent to the port slots for which you want to mask the alarms.

   Each port has a respective check box. When the check box is checked, you are selecting a port alarm to be masked and vice versa.

3. To select all check boxes, click **‹Select All›** to select all check boxes.
4. To clear all check boxes, click **‹Clear All›**.
5. Do one of the following:
   - Click **‹Set›** to implement the updated list of masks.
   - Click **‹Cancel›** to exit the Mask Alarms window or click **‹Refresh›** to display an updated Mask Alarms window.

Note

1. *For each inactive port, its check box is disabled. The value displayed in the check box will be the last configured value.*
2. *The Remote Connection Fail is an alarm in System level. It exists only for Local devices.*
3. *The bit order defined above is independent on the existence of the USER-ETH port and/or a second link. That is, the bit order is permanent.*

7.3 Managing Port Alarms

RADview/TDM allows you to manage Optimux-34 port alarms for selected ports including:

- E1 channel: RADview/TDM Optimux-34 has 16 E1 ports: (Ports 1 to 8 above and Ports 9 to 16 below) on each Local/Remote unit.
- E3 (Link: RADview/TDM Optimux-34 has two Link ports (ports A and B) on each Local/Remote unit.
- MNG-ETH: RADview/TDM Optimux-34 has one MNG-ETH port on each Local/Remote unit.
- USER-ETH: RADview/TDM Optimux-34 has one USER-ETH port on each Local/Remote unit.
- V.35: RADview/TDM Optimux-34 has one V.35 port on each Local/Remote unit.

Viewing Port Alarms

RADview/TDM Optimux-34 allows you to view a list of current Optimux-34 port alarms, their codes and severities.

➤ **To view port alarms:**

1. In the Optimux-34 View window, select the relevant E1 (ports 1-16), V.35, Link (A or B), or Ethernet (MNG-ETH or USER-ETH) port in the local or remote unit.
2. On the menu bar, click **Fault > Alarms** (see *Figure 7-7*).
   Note that the sub-menu changes according to the selected item.

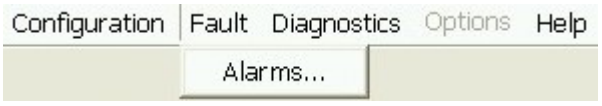


Figure 7-7. Fault Menu – Port Level

The relevant Port Alarms dialog box appears, displaying whether the port alarm is masked (in the Mask field), and lists the current port alarms, codes, and severities.

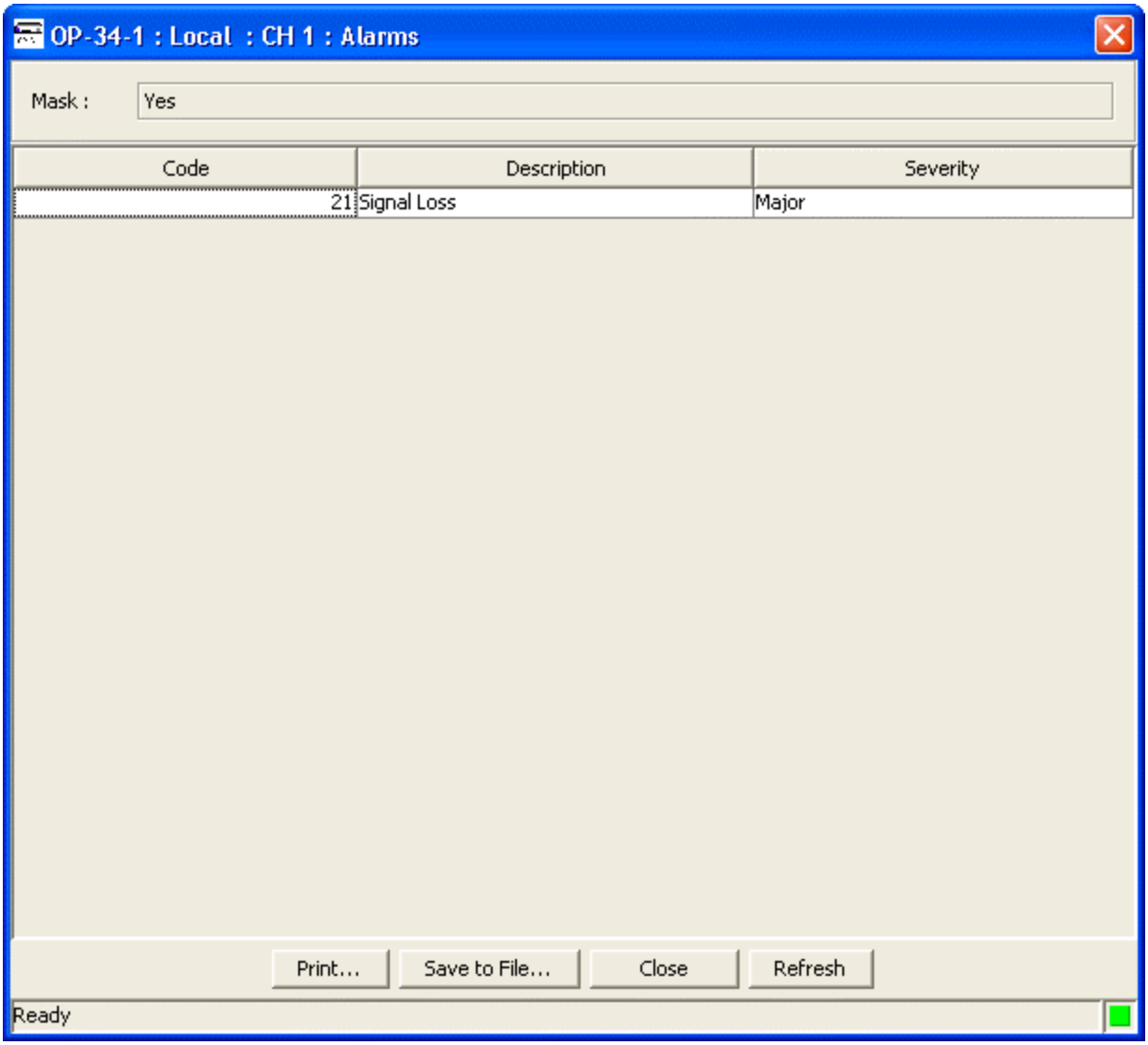


Figure 7-8. E1 Port Alarms Dialog Box

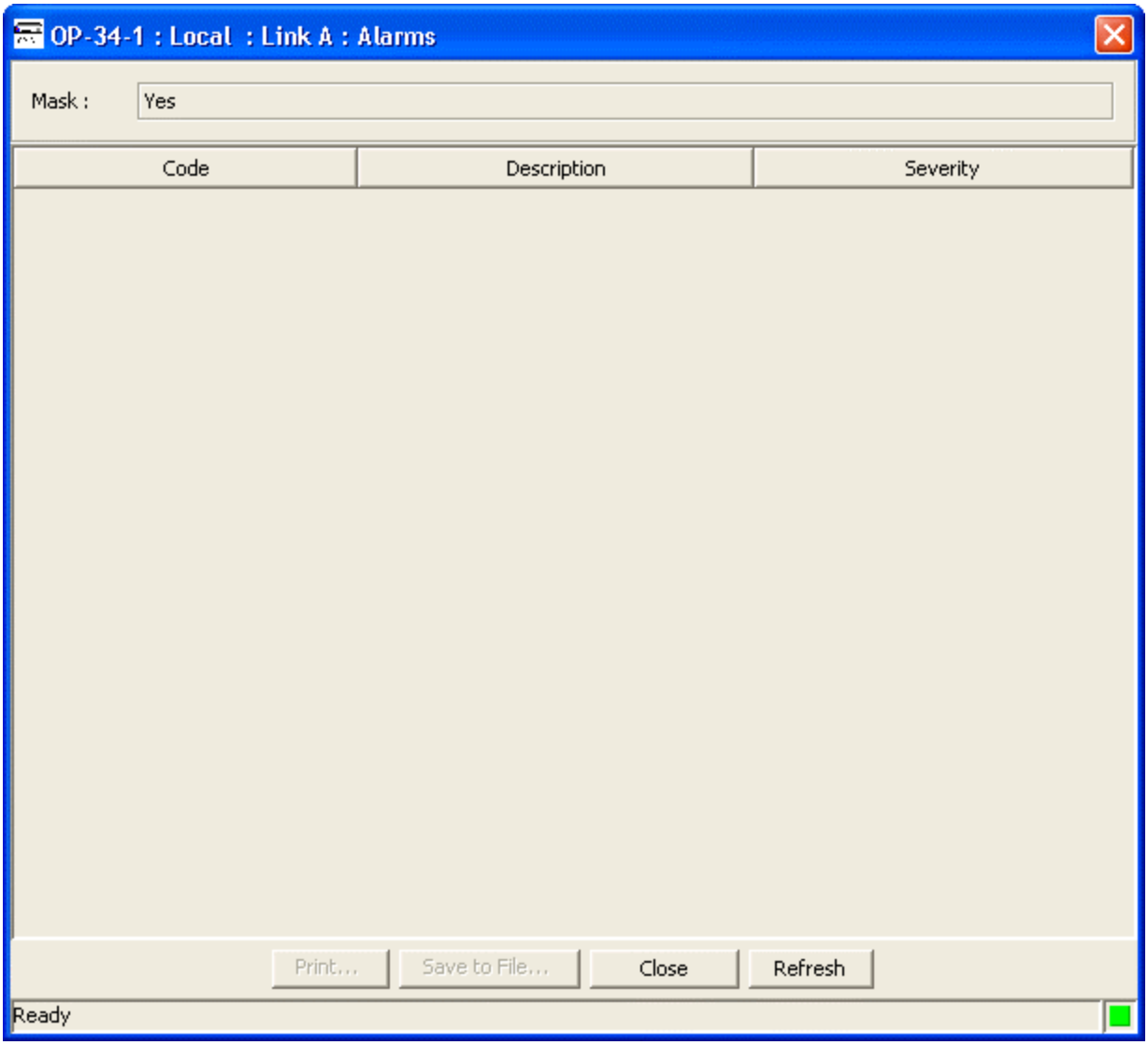


Figure 7-9. Link Port Alarms Dialog Box

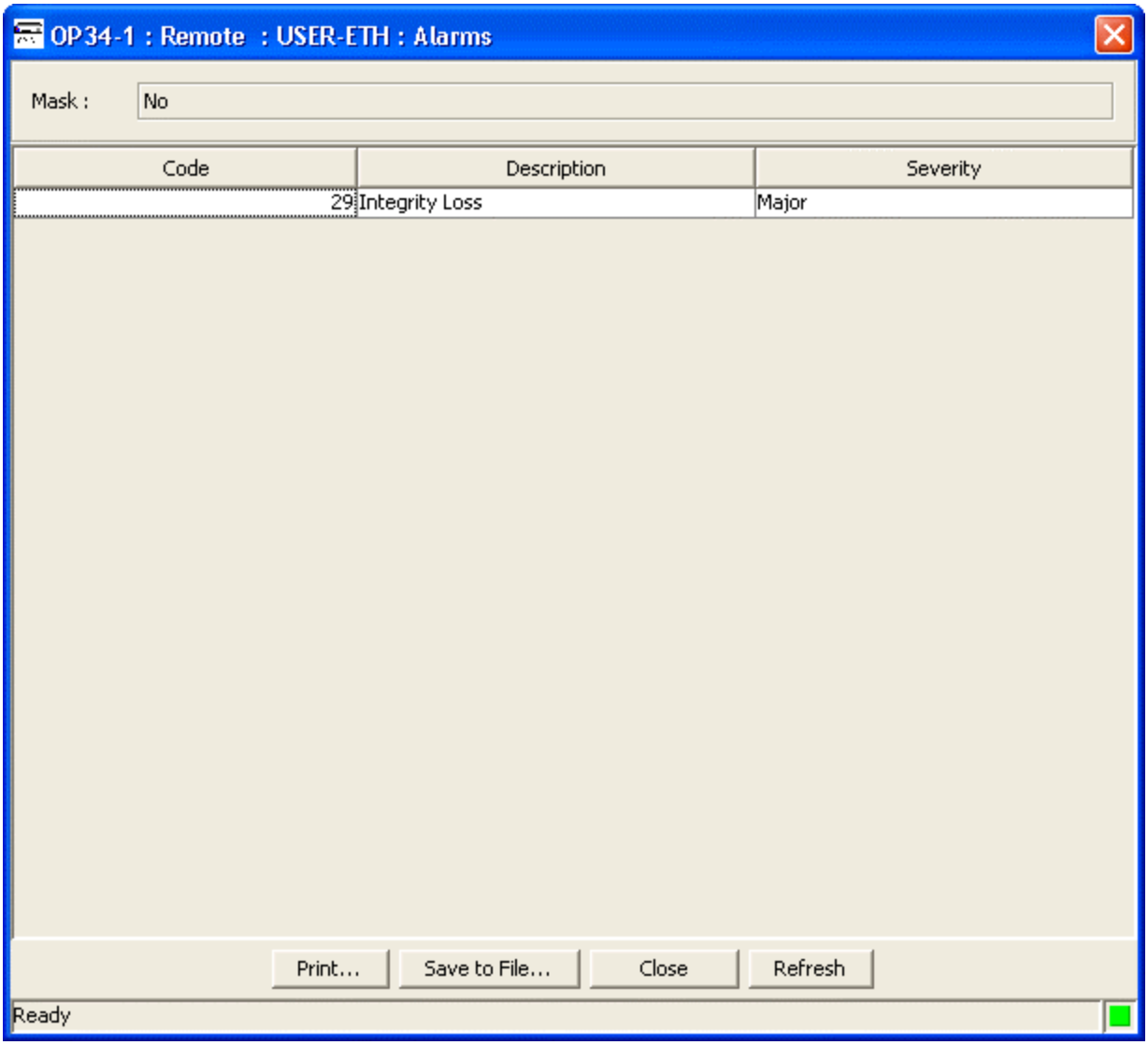


Figure 7-10. USER-ETH Port Alarms Dialog Box

3. You can do one of the following:
   - To send the active alarms to a printer, click **‹Print›**.
   - To save the active alarms to a desired file, click **‹Save File›**, then drill down to the required file location on your computer and click **‹Save›**.
   - To update the list, click **‹Refresh›** or exit the window by clicking **‹Close›.**

Table 7-6. Port Alarms Dialog Box Parameters

Parameter	Possible Values / Remarks
Code	The code for the specific alarm. **1...40** Read-Only
Description	The description of the alarm corresponding to the specified code. Read-Only
Severity	The alarm severity. **Major** **Minor** Read-Only

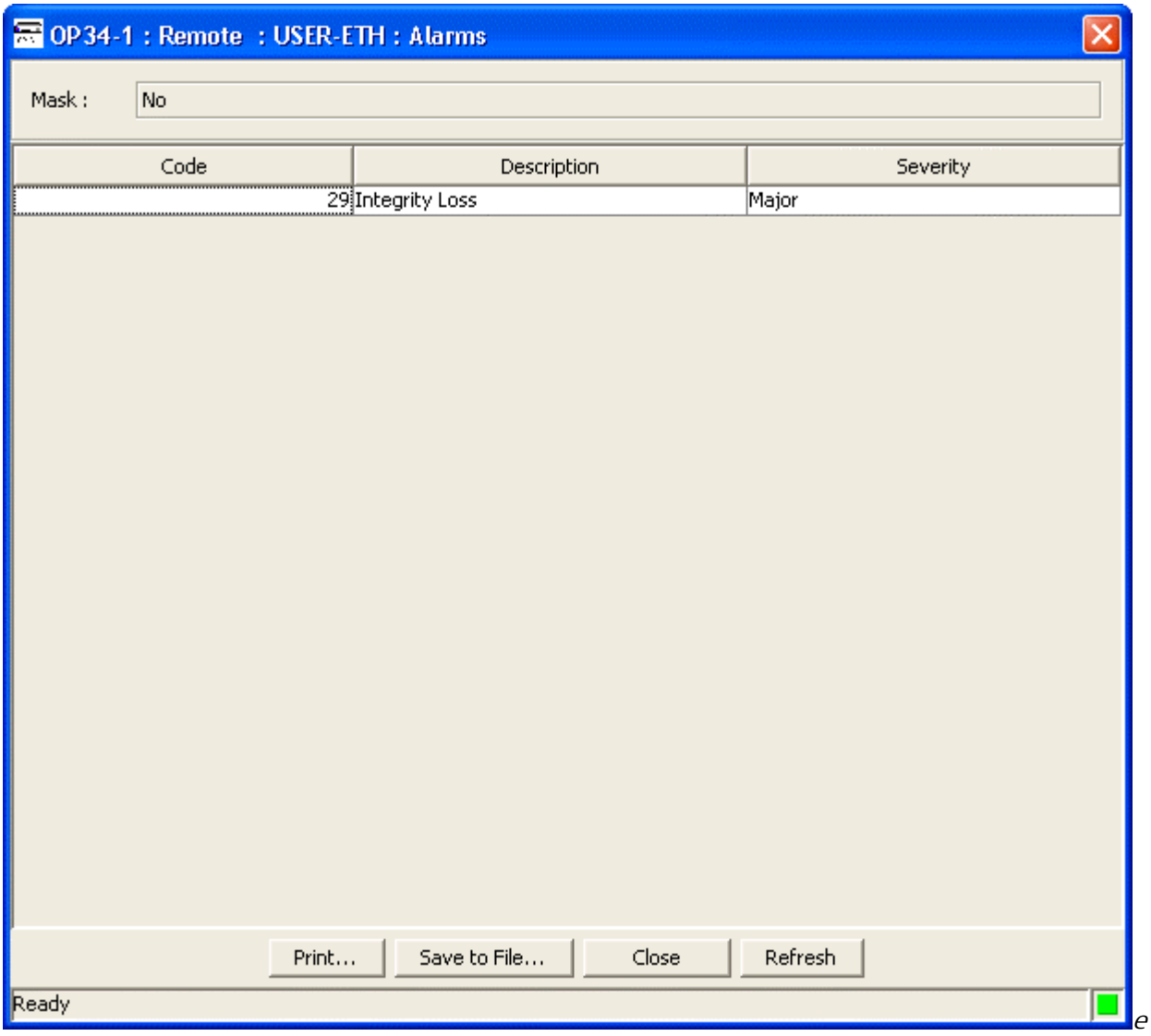


Figure 7-11. USER-ETH Port Alarms Dialog Box

4. You can do one of the following:
   - To send the active alarms to a printer, click **‹Print›**.
   - To save the active alarms to a desired file, click **‹Save File›**, then drill down to the required file location on your computer and click **‹Save›**.
   - To update the list, click **‹Refresh›** or exit the window by clicking **‹Close›.**

7.4 Performing Loopback Tests

Optimux-34 allows you to run local and remote diagnostic loopback testing for ports.

Monitoring performance in the Optimux-34 consists of performing diagnostics or loopback tests. You can perform loopback tests on Optimux-34 ports.

The Diagnostics menu provides access to the port level diagnostic test options. You can run loopback tests for the following types of ports:

- E1 channel
- Link
- V.35.

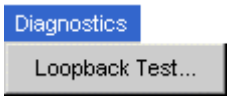


Figure 7-12. Port Level Diagnostics Menu

The **Loopback Test** command enables you to:

- View all loopback tests that are currently running on the local and remote devices
- Run a loopback test on a link.

You cannot run:

- A loopback test on a channel if a loopback test is already running on a link
- A loopback test on a link if a loopback test is already running on a channel
- A remote loopback test on a channel if a remote loopback test is already running at the opposite end of the channel.

➤ **To run a loopback test:**

1. In the Optimux-34 window, select the relevant (E1. Link, or V.35) port on the local or remote device.
2. On the menu bar, click **Diagnostics** › **Loopback Test.**

   The Loopback dialog box appears, showing the current loopback status of the selected port.

Figure 7-13. Channel Loopback Test Dialog Box

3. In the **Select Test** drop down list, select the type of loopback test you want to run.

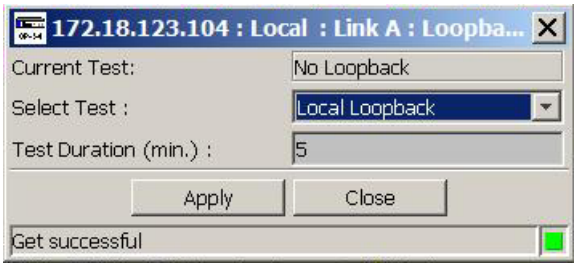


Figure 7-14. Link Loopback Test Dialog Box

4. In the Test Duration field, type the test duration time (in minutes).

5. Click <**Apply**> to begin the loopback test on the port.

   The new loopback status of the port appears in the dialog box.

   This dialog will be updated by traps and polling while it is open.

   Only one loopback test at a time may exist on a specified port. Therefore, if a loopback test is already running on a specific port, you can select only No Loopback for this port.

   If the Administrative Status of the selected port is down, then no loopback will be available. A message will be displayed at the status bar saying "Diagnostics are not available for interface that its Administrative Status is Down."

   Upon clicking <**Apply**>, the NMS checks if the value of Test Duration is within the valid range. If not, the following message will be displayed on Status Bar: "Test Duration (min.) value should be between 1 and 255" and the operation will not be performed.

6. Click <**Close**> to close the Port Loopback Test dialog box.

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